

THE HISTORY OF THE HINDU FAITH AND PRACTICES



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## THE PARADOX OF JUDGMENT<sup>1</sup>

WHAT is judgment? When the word is used without qualification, does it stand for an act of an individual mind, a sentence having a definite form, an assertion of a state of knowledge, or a description of reality? It does not take much astuteness to observe that judgment is a term covering all these meanings. It may legitimately be employed in any and all of these senses. It enjoys, in other words, a signification at once psychological, logical, epistemological, and metaphysical. Such opulence of meaning is a source of great embarrassment. How harmonize all these significations of judgment? How avoid either suppression or exaggeration? Traditional theories, indeed, tend to ignore some meanings and to magnify others. *Pure* theories—those attempting to define judgment in terms of one set of concepts derived from but one of the four disciplines mentioned—are manifestly gross abstractions. If the aim of a definition is to disclose the *differentia* of that which is to be defined, then a definition of judgment must somehow embrace in one formula a synthesis of psychological, logical, epistemological, and metaphysical considerations.

For the sake of illustrating the necessity for such synthesis, consider any perceptual judgment. "This animal is dangerous," for instance, is an assertion which by a process of abstraction may be regarded as expressing merely the mental act of *judging*. By means of this assertion a particular self affirms a particular belief capable of being evoked by an imaginary animal or by a real animal not actually dangerous. The *act* of judging as an incident in the mental career of a self may be treated in isolation. All the other aspects of judgment may be disregarded when attention is focussed upon those psychological facts or events that lie behind every form of propositional discourse.

By a similar abstraction the assertion may be regarded merely as a logical complex. The existence or non-existence of "this animal" and the reality or unreality of being "dangerous" have nothing to do with the formal nature of the proposition. The logic of judgment is concerned chiefly with the universal *grammar* of the ex-

<sup>1</sup> Read at the meeting of the American Philosophical Association at Chicago, December, 1927.



pressions through which selves convey their attitudes of assent and dissent. The tendency to view propositional discourse abstractly, in independence of the particular minds engaged in judging and of the facts they judge about, is obviously justified if logic is not to be confused with psychology on the one hand, and with epistemology and metaphysics on the other.

By a like abstraction the proposition may be considered as having a sense predominantly epistemological. "This animal is dangerous" may be viewed as a statement disclosing primarily a case of awareness. Since awareness may be of the non-existent or the unreal, as in illusions and dreams, all distinction between judgments simply becomes a distinction in occasions and forms of awareness. If I *see* an animal of terrifying aspect and *believe* it to be dangerous, my judgment is always a true judgment—in so far as it expresses my actual awareness and my actual belief—even if there is neither beast to see nor danger to apprehend. When awareness is singled out as that which judgment principally expresses, judgment is simply a vehicle through which the cognitive relation rises to the level of discourse. To judge is to *report* what one perceives, imagines, remembers, or thinks.

Yet all such ways of viewing judgment are palpably abstract. The three fashions of dealing with the assertion that "this animal is dangerous"—the psychological, the logical, the epistemological—proceed by deliberate suppression of what can not be suppressed, namely, reference to something supposedly real. *Mere* belief, *mere* discourse, *mere* awareness, though analytically separable aspects of judgment, are actually never detached either from one another or from some "existential" situation. Whenever and however I judge, no matter what I judge about, I express simultaneously the quadruple nature of judgment.

Assuming, then, that the *differentia* of judgment is four-fold, that judgment is a belief in propositional dress prompted by some act of awareness in relation to "something" beyond it, what explicitly is this "something" to which judgment is always obliged to refer? This "something" appears to be quite anomalous: It at once lies outside and falls within judgment. It is outside judgment in the sense that belief does not create or discourse constitute it; and it falls within it, since it is an essential part of the *differentia* of judgment. What is this thing, transcending judgment and yet immanent in it?

There are two ways of answering the question, the epistemological and the metaphysical. The "something" which in judgment we mean is either *the known* or *the real*. The two answers are not easily isolable: they are the two sides of the same shield. What we



know is supposed to be the real, and the real is assumed to be the object of knowledge. Nevertheless, since it is always possible to raise the issue whether knowledge is not ultimately of appearance or whether reality is ever truly known, the two answers may be considered separately.

First, then, as regards the epistemological answer, namely, that judgment supervenes upon a state of awareness. I judge, for instance, that "this animal is dangerous"; this propositionally articulated belief presupposes the awareness of something evoking the belief and prompting the expression of it. Without this awareness there would be no occasion either for the belief or for its assertion. Awareness thus becomes the primary constituent of judgment. I judge only what I can be aware of. And awareness need not be taken to stand for mere perceptual immediacy. Its meaning may be broadened to include memory as well as perception, imagination as well as thought. Beliefs expressed in propositional discourse have reference to whatever in any way we can be cognizant of. As thus enlarged in scope, awareness may be seen to be anterior to every judgment, that is, to every formal statement of a belief. The "something," then, to which in judgment we refer, is what any act of awareness provides; this act is outside the judgment in the sense of being its prior condition or ground, but it falls inside it, since the judgment is nothing but the awareness reinstated in propositional discourse. From this point of view, no judgment can be defined in the absence of a prior relation to an act of awareness.

I am speaking of an "act" of awareness instead of an "object" of awareness in order to avoid the "existential" issue. For in avoidance of this issue lies the advantage of an epistemological theory of judgment. The question whether awareness is awareness of existence may be taken to fall outside the definition of judgment. If imagining or conceiving be an act of awareness, may I not in fancy or thought salute or embrace the non-existent? And assuming this to be the case with imagination or thought, it is difficult to make an exception of perception or memory. The facts drawn from illusions and dreams may always be cited against the view that in perception or memory we are aware of the existent. For the sake of eschewing the question of existence, we may speak of the "something" meant by judgment as that which in any act of awareness happens to be encountered. What is the difference between existence and non-existence? And what difference is there between one sort of existence and another? It is the task of metaphysics and not of epistemology to answer these questions. We must not say, then, that in judgment we refer to "objects" of awareness. The term "object" is notoriously ambiguous, signifying either the trans-



endent occasion or the immanent content of awareness." The term "content" illustrates the makeshift to which we may be driven in our zeal to circumvent the existential issue. The same makeshift in the interest of "pure" epistemology is exhibited by the more specific terms descriptive of the so-called "content" of awareness: ideas, data, essences, universals—to mention but these—are all suggestive of existential neutrality. But let us take the bull by the horns. Let us go to the limit of existential neutrality and define judgment as a propositionally formulated belief at the behest of any act of awareness, leaving the question unanswered, involving as it does metaphysical considerations, precisely what ontological status belongs to that which awareness discloses.

Unfortunately, we can not readily avoid the existential issue. We can only do so by an arbitrary fiat. Belief expressed through logical discourse is two-dimensional. In judging that "this animal is dangerous," I do not confine my belief to the one level of awareness. I believe, not only that I perceive the animal, but also that the animal is there to be perceived. It is only in the interest of a pure theory of knowledge that I am required to ignore the level of existence. Actually, my perceptual judgment leads a double life, claiming membership in two separate worlds: it refers to the experience of the fact and to the fact experienced. The belief uttered by my perceptual judgment is the dual belief that my perception is veridical and that my percept is real. Nor is this duality of belief a peculiarity of perceptual judgments alone. All judgments are two-dimensional. There is no difference in principle between perceptual and non-perceptual judgments. The greater complexity of the latter consists in this, that their relevancy to the level of existence is less obvious or less direct. Mere discourse, valid without relation to anything beyond it, either to the belief inducing discourse or to the facts (apparent or real) meant by discourse, is, indeed, what "pure" logic is supposed to be engaged in. Whether pure logic is possible or not is a question that need not here be raised; at all events, judgments can be pure propositions only by deliberate abstraction. Logical propositions are concrete judgments violently disengaged from use and relevancy. And when judgments are employed, not as abstract counters in the game of logical discourse, but as vehicles of human belief, they are pertinent simultaneously to the two hemispheres of knowing and being. This duality of reference is the burden of all judgments, whatever their form and structure, whenever they are "meant" to be about "something" outside discourse itself.

The reference of judgment is thus a question that can not be answered by avoiding the existential issue. The metaphysical an-



swer consists in making this issue paramount; it asserts unhesitatingly that the "something" to which in judgment we are obliged to refer is the "real." For our purposes it matters little whether, dividing the judgment into two parts, we take one part (the subject) to represent the real and the other part (the predicate) to represent its character or attribute; or whether, taking the judgment as undivided, we consider the whole propositional assertion as the adjective characterizing the real; in either case, the important thing is that reference to reality is an integral constituent of the meaning of judgment. *To judge is always to judge about the real.* As an unexamined statement this sounds plausible enough. Many an eminent philosopher may be found uttering it as if it were a truism. Yet what does it mean? What precisely do we intend to convey by the "real" to which judgment is necessarily related? We are here confronted by one of the gravest ambiguities. Merely to state the ambiguity is to disclose the anomaly inherent in judgment.

Is the "real" the initial occasion or is it the final result of judgment? Is the "real" a mere name for something-we-know-not-yet-what or is it something already named or determined? In the one case, the real is unqualified, naked of characters, since whatever determinations it acquires are such as *ulterior* judgments attribute to it; in the other, the real is qualified, the possessor of those adjectives with which the work of attribution has *already* endowed it. And when it is asserted that in judging we always refer to the real, is it to the unqualified real or to the qualified real we are supposed to refer? Either supposition is laden with a paradox.

To assert that in judgment we refer to the real, but to the real as unspecified, the specification of it being the work of attribution performed by judgment, is to divest the initial reference of judgment of all significance. For the area of unspecified reality is without limit: it includes everything and it excludes nothing. Unspecified reality coincides with "being," that *summum genus* containing as species both the non-existent and the unreal. Prior to the discriminating and specifying work of judgment, everything imaginable or mentionable has being. It is to the labor of attribution wrought by judgment that we owe the distinction within the sphere of being between the existent and the real. Judgment, in attributing specific properties to "existence," spatio-temporal or other, does not annihilate the non-existent: the non-existent finds lodgment in the more commodious realm of "reality." There are non-existent but real things, such as the mathematical infinite and non-Euclidean space, to which judgment can attribute determinate qualities and relations. But the widest ontological area, the area of "being," provides room for whatever for any reason can not be said to have the attributes



either of existence or of reality. There is, strictly speaking, no such thing as non-being. While it is possible with the aid of specific attributes to distinguish the existent from the non-existent and the real from the unreal, it is not possible to refer to anything lacking in being; for anything imagined or conceived as wanting in being would at once acquire being in imagination or thought. Unspecified existence or unqualified reality is thus indiscernible from bare being; and bare being is catholic enough to contain non-being within its ample scope. In saying, then, that in judgment we refer to the real, but to the real as unspecified, we enter a universe of discourse where sense and nonsense meet on equal terms. We are virtually reducing to absurdity the judgment's reference to the "real," since it is a reference indiscriminately to anything and everything and nothing. To characterize such a reference as "existential" is manifestly paradoxical. Bare being, the home of everything, is the home likewise of the non-existent and the unreal.

The existential reference of judgment, to be genuinely existential, must therefore be to reality as specified or determined. The real to which judgment is relevant must have attributes. Without attributes anything is real; and if anything is real, nothing is real. The distinction between the real and the unreal is thus indispensable for an "existential" theory of judgment. It is the possession or non-possession of specific determinations which separates the real from the unreal; and if it is to the real as distinguished from the unreal to which in judgment we are supposed to refer, prior to the work of attribution by judgment the real must be assumed to possess those attributes by which it is distinguished from the unreal. But this assumption involves a tremendous paradox: before we can judge, if to judge is to judge the real, we must know by what tokens the real is marked off from its opposite. How can that be? How can I know whether the real which my judgment is supposed to mean is not actually the unreal?

Let me revert to my former illustration. The animal that I assert to be dangerous must somehow, if my judgment is to be genuinely existential, possess specific marks distinguishing it from an unreal beast. The paradox of which I speak is forced upon us as soon as we ask whether those marks (whatever they are) are distinguished and recognized without judgment or by means of judgment.

Consider the first alternative: judgment is not required to distinguish the real from the unreal animal. To say this is to demand that hallucinations be recognized as hallucinations by the subjects of them or dreams as dreams by the dreamers thereof. But this is psychologically not the case. But aside from this empirical dif-



ficulty, the assertion that in judging the animal to be dangerous we refer to something real, recognized as such by intuition, clairvoyance, or some other mental act distinct from judgment, involves us in a vicious circle. For the assertion in question is not an assertion of fact but an assertion of theory; it states that the real is such that its reality can be recognized without the aid of judgment, and that knowledge is such that prior to judgment we possess indubitable certainty of what the real is. But this theory at once metaphysical and epistemological, to be a theory and not sheer dogma, must obviously be rendered valid by some judgment. The circle is complete. I must defend by judgment the theory that without judgment the real animal can be distinguished from the unreal in order to provide a real animal for my judgment to refer to.

Nor do we escape the circle by the second alternative. To say that the real is distinguished from the unreal by means of judgment is to say in effect that judgment has no *real* animal to which to refer until judgment has made such reference possible by a description of the animal's existential properties. In judging we are supposed to *refer* to the real, but the real to which in judgment we refer is what the judgment itself *describes* to be real. Can anything be more circular? If the distinction between the real and the unreal is a distinction made *by* judgment, then the existential reference of judgment is existential only in case the judgment to which we entrust the office of separating the real from the unreal is a valid judgment. Once more we find that the cart is put before the horse. The reference to the real presupposes a description of the real. Thus it is not to the real to which in judgment we refer, but to a *theory* of the real, i.e., to the real as envisaged by this type of metaphysics or that.

The paradox of judgment here discerned has a double aspect. In the first place, it results from the shifting and ambiguous senses of the "real." As long as the "real" can vary in meaning, suggesting either the neutral sphere of everything mentionable by discourse or the eulogistic domain from which the "unreal" is banished by metaphysical fiat, the "existential" character of judgment remains essentially anomalous. And in the second place, the paradox is due to the fusion of two separable acts which the judging process is called upon to discharge. The anomaly of judgment lies in the fact that judgment is at once *reference* "*to*" reality and *description* "*of*" reality. But this aspect of the anomaly requires to be made more explicit.

What is the difference between reference and description? The meaning of reference is obviously "relational." To refer to an object or a situation is to point in its direction or in some other way



indicate its presence. Of the features peculiar to reference as an indicative relation may be mentioned the following three: (1) Reference to an object does not specify its nature: it merely rivets attention upon it. (2) Reference is a relation essentially catholic in application: it is compatible with anything and everything. (3) Reference is a relation intrinsic to one, but extrinsic to the other (or others) of its terms: a sign-post, for instance, pointing to a highway must needs refer, but it is not an intrinsic part of the highway to be referred to. In all these three respects description differs from reference. The function of description is "adjectival": (a) To describe an object is not merely to indicate it: it is to specify its nature by attributes. (b) Determination by adjectives is obviously limited in application: it is limited to whatever actually possesses the attributes signified by the adjectives in question. (c) And the adjectives employed in the description are names for characters constituting the intrinsic nature of whatever the description is supposed to describe.

If the difference between reference and description is at all valid, its application to judgment enables us to unite in one precise statement the double aspect of the paradox inherent in judgment. Reference of judgment to the real and description of the real by judgment constitute a single act, since the only mode of reference to the real which judgment can establish is by describing it; yet the referred real and the described real, distinguishable by analysis, can not be made to coincide. The referred real is indeterminate, the described is determinate. The real referred to is neutral in the sense of favoring no particular attribution; the real described is limited by the characters attributed to it. The referred real is the *subject* of characterization; the described real is the characterized *object*. The referred real is the genus; the described real a species of it. The referred real (in the language of the schools) is substance; the described real one of its accidents. The referred real coalesces with the boundless sea of being; the described real represents an arrested wave.

The reference of judgment (which is simply its transitive relation of being) and the description of judgment (which by adjectival attribution is a limitation of being) are, though distinguishable, actually fused in the unitary act of judging; and this is the ultimate ground of the paradox. For it is the ineluctable nature of judgment to express its transitive relation to reality by an adjectival description of it. Hence the following dilemma. Either reality is prior or it is posterior to the descriptive act of judgment. If reality is prior to the descriptive act of judgment, it is nothing that judgment can descriptively refer to, since the conception of something



anterior to the description of it is what we literally mean by the non-descript: it is the realm of indefinite being, the night where all cows are black. And if reality is posterior to the descriptive act of judgment, it is no longer reality we are dealing with, but an ontology; if reality is what judgment by the work of its attribution limits it to be, judgment is in the ludicrous position of referring to, and thus describing, its own description. In short, either there is nothing real for judgment to indicate and to describe, or else the famous "existential" reference of judgment turns out to be a description of a description.

From this dilemma there is no escape as long as theories of judgment continue to employ the phrase "existential reference" as if its meaning were self-luminous and unambiguous. The dilemma which the phrase involves can be avoided only by a definition of judgment which undertakes to make explicit that the reference of judgment is not what the judgment itself succeeds in describing. The paradoxical phrase must be exercised. Judgment is never existential reference, if "reference" be regarded as other than description, and if "existential" be viewed as denoting a determinate sphere within the area of being. The reference of judgment is identical with description; and what it describes is some aspect or mode of being as disclosed in awareness. And since awareness may be of the unreal and the non-existent, the datum of awareness, never problematic as regards its being, is always problematic as regards its reality or existence until judgment has determined its ontological status. Judgment, therefore, should be defined as a descriptive response or belief of a self in terms of propositional discourse in the presence of a problematic situation as encountered in awareness. This definition is compendious enough to include all the conditions—psychological, logical, epistemological, metaphysical—that are present whenever any judgment is present. And it is general enough to be applicable to every sort and form of judgment. A detailed defense of this requires, however, a discussion more lengthy than the present occasion allows.

UNIVERSITY OF CALIFORNIA.

J. LOEWENBERG.

## A HYPOTHESIS OF REALMS<sup>1</sup>

### I

FOR some time I have been working on a so-called "hypothesis of epitomization" to the effect that the structures and processes evident in the data of the physical, biological, and neuropsych-

<sup>1</sup> Read, in part, at the meeting of the American Philosophical Association, Chicago, December 28, 1927.



chological sciences exhibit resemblances which are significant for a realistic metaphysics.<sup>2</sup> This view receives, I think, some corroborations from contemporary philosophies of emergence, organic mechanism, *Gestalten*, energy patterns, and holism. It may be summed up by borrowing Lloyd Morgan's statement that "life stands to matter in the same kind of relation as mind stands to life,"<sup>3</sup> and diagrammed in the familiar (although only partially adequate) pyramidal scheme.

Recently it has seemed to me that, if this way of treating the data can for the sake of the argument be provisionally adopted, and if the terms "matter," "life," and "mind" can be used each to designate a realm, there are possibilities of a fascinating downward extension of the treatment to include what I would call other realms. Believing as I do that what Broad calls the speculative philosophy<sup>4</sup> is sometimes in its own way as important as the critical philosophy, I should like to attempt such an extension, even though the attempt must be made in a preliminary and inadequate way.

The tentative method, if we may call it that, consists first in studying the data of the physical, biological, and neuropsychological sciences to detect, if possible, some of their relationships, and then in attempting to detect these relationships in other data. With regard to the sciences just mentioned (or the realms of matter, life, and mind, respectively) we find that each realm is made up of what we may call monads of various levels; for instance, the physical is made up of electrons, atoms, astronomical bodies, etc., the biological is made up of unicellular organisms, multicellular organisms, etc., and the neuropsychological is made up of nervous structures of various grades in their characteristic activities. Further, we find that of the three realms, matter and life and mind, beginning with the first, each is to the one following it in the relation of container and contained. The physical contains the biological, and the biological, at least for ordinary views, contains the neuropsychological. Once more, although the point will not be so obvious and can not here be developed in detail, we find that the monads of each level in each realm exhibit four interrelated characteristics of (1) relative individuation in the midst of a milieu which usually contains prior monads, (2) interactions of appropriation and rejection of portions of the milieu and of prior monads, (3) repeated production or else reproduction of new monads of the given level, and (4) segregation, whether by integration or differentiation, of monads of the given level into monads of another level. For example (choos-

<sup>2</sup> See, e.g., G. P. Conger, "What Are the Criteria of Levels?," this JOURNAL, Vol. XXIII (1926), pp. 589-598.

<sup>3</sup> C. Lloyd Morgan, *Emergent Evolution* (1923), p. 29.

<sup>4</sup> C. D. Broad, *Scientific Thought* (1923), pp. 20 ff.



ing two instances almost at random from a multitude which a systematic exploration would show), we find that an atom in its interactions absorbs light in a process comparable with the process wherein an organism ingests food, and that planets, like the more complex of the biological organisms, apparently owe their origins to a process which Chamberlin has called "bi-parental."<sup>5</sup> The resemblances, as might be expected when one thinks of pictures like the "solar system atom" (not altogether supplanted by recent developments in theoretical physics) and of metaphors like the "death of a star," are quite striking, and become more so when the treatment is systematic and detailed. The differences are also striking—to most investigators, more striking than the resemblances. But the differences, I think, have to be understood in the light of the resemblances, as indicating throughout the various levels of the realms of matter, life, and mind, a progressive segregation of monads which, even as they become more and more complex, exhibit similar characteristics. The progressive segregation, whether it be regarded as integration or differentiation, when taken over a long range of development, through many levels, seems to amount to a cumulative coördination. For example, by reason of the rate and intricacy of the metabolic processes, each living organism effects a kind of concentration and coördination of the structures present and the processes going on in the earth and in other organisms around it. The living organisms are so individuated that in general when viewed at this level the process of coördination seems diversified and scattered; but in a certain large sense all the organisms may be said to be involved in the earth's equilibrium conditions, although the organisms register these conditions rather than modify them to any important degree. Again, and similarly, at their own levels and in their own way, by reason of the rate and intricacy of the neuro-psychological processes, each nervous reflex or configuration effects a concentration or coördination of structures and processes in the environment, the organism and the other reflexes or configurations. Here again, if the reflexes are taken one by one, the coördination appears to be diversified and scattered; but at the same time the nervous system as a whole coördinates the structures and processes mentioned, and according to all the views this side of extreme fatalism, not merely registers, but also modifies the equilibrium of the organism and the events in the environment.

It may be observed that all this is a way of supplying detail to the statement of Lloyd Morgan above quoted. Matter and life and mind each exhibit a series of levels with analogous structures and processes; the three realms are in a transitive relation of container

<sup>5</sup> T. C. Chamberlin, "The Genesis of Planets," Carnegie Institution of Washington *Year Book*, Number 23, p. 275 (1924).



and contained, life is a cumulative coördination of matter, and mind is a cumulative coördination of matter and life.

Without attempting here to defend these generalizations in further detail, let us, for the sake of the argument, attempt to make use of them in a possible extension, to see if they can be made to suggest anything else interesting or important for metaphysics.

## II

In considering the possibility of such an extension and the direction which it might take, my first point is that there are certain tendencies in contemporary thought which, somewhat like the perturbations of Uranus for the astronomers years ago, may well lead us to look beyond the more easily recognized limits of matter, life, and mind for other factors at work upon them and within them. Let us indicate briefly four such tendencies.

1. In the first place, and as a kind of recantation of some views formerly expressed, I would put the realistic thesis that the logical and mathematical forms and relations are in some sense independent of our minds. This is a part of the theories familiar under the terms "essences" and "subsistents," and a part which I am now inclined to accept. Some other parts of these theories call, I think, for separate treatment, but let us consider first the independence of the logical and mathematical data. There are some arguments on the other side, in terms of Kantian categories or pragmatic conveniences. It is, of course, true that we, as persons, make use of these logical and mathematical forms and relations, and that they are inconceivable except as somehow conceived by minds. But I think we need to remind ourselves that while, strictly speaking, there are no "proofs of realism" any more than of idealism, we are living in a time of scientific discovery which, if it is not actually shifting the center of gravity in metaphysics from the inner world to the outer, is certainly imposing a greater and greater stress upon the theories which would keep the center of gravity where it was in the days of Kant and Fichte. The universe as revealed in modern days and ways is so overwhelming that mind needs some other title than that of self-appointed legislator for it. Mind must register before it can regulate.

Now as regards the logical forms and relations, what does mind register concerning them? The idealist regards them as so ingrained in the nature of mind that they are ineradicable. The realist regards them as so characteristic of the nature of the world that they are inevitable. On either view they exhibit a remarkable persistence. We may emancipate logic from experience, and make it theoretical and formal; we may emancipate it from syntax, and make it mathe-



matical and symbolic; we may emancipate it from existence and make it contemplative or arbitrary—and still we have, either “in” our minds or “on” them, the logical forms and relations. It is like writing a book to deny the efficacy of writing; perhaps it is like fighting a war to end war. The logical forms and relations are presupposed in discussions about them and in explanations of them—even in attempts to explain them away. Logic seems to dissipate itself in an infinite regress of propositions about propositions, in which after a while the mind loses all interest if not all proprietorship. But just in proportion as the regress becomes empty of content, it seems to exhibit more and more clearly the outlines of logical structure and form. When Kant discovered anything which he took to be ineradicable he put it down as indicating the primacy of mind and belonging to the prolegomena of any future metaphysics; but that was before the laboratories and the observatories had spread so widely the suspicion that mind is a late comer into the universe of matter and life, and that metaphysics may suffer from too much prolegomena—particularly of the epistemological variety.

Accepting, then, the realist view as on the whole more adequate in such an overwhelming universe, I would be inclined to regard the logical structures as essentially independent of our minds. This is an assumption, of course; but I think the opposing view is a presumption. But if one accepts the realist view, there is the further problem of assigning to the logical structures a status which, as regards the other data, will be consistent and orderly; and that status, the more one studies the problem, seems independent not merely of mind, but of life and matter as well. The possibility begins to open that the logical structures themselves belong in a realm, comparable to the realms of matter, life, and mind, although at least as different from any of these as these are different from one another. I may add that if it can be shown that the logical entities constitute a realm, I think it would strengthen the realist argument that those entities are independent of our minds; this may be reasoning in a circle, but at any rate it is reasoning in a great circle rather than in a small one.

With the mathematical relations the case is somewhat different. In algebra and geometry the postulates and procedures may vary, and can be analyzed to the point where it is seen that they do not presuppose prior mathematical postulates, but only prior logical postulates. But it has often been remarked that, given a set of postulates and procedures appropriate to them, the mathematical relations also seem to confront us with a sheer inevitableness, whatever be the choices which we may seem to exercise with regard to them.



It is still possible, and doubtless always will be possible, to interpret mathematics in Kantian fashion; but certainly the realistic movements which attempt other interpretations are more likely to be the trend and temper of a scientific age.

2. Taking this view that the forms of logic and of mathematics are in the last analysis essential rather than experimental, one is over the threshold of the domain of universals, essences, subsistents, and eternal objects which, ever since Plato, have been thought necessary either to "save the appearances" or to supplant them. And the question arises, "If you admit that the logical and mathematical relations are independently real, and somehow hold between independent entities, must you not also admit that all the so-called essences and subsistents are just as real? Is not a color just as real as a logical form, or a tone as a mathematical relation?" I must leave this question for a moment, to return to it presently; here it is in place merely to say that any one seeking possible extensions of the results of scientific observations and experiments must be impressed by this long sustained realist tradition. It seems to be at least an argument *that* there may be realms independent of us which are not exhausted in our empirical sciences, although on the question just *what* these realms are, or in what they consist, the hypothesis I am about to develop will differ from some of the current theories.

3. Once more, in casting about for suggestions, I am impressed with certain great steps which in recent years have been made toward the unification of some of our more abstract theories about the world. There seem to be a number of what Lovejoy might call "reductive"<sup>6</sup> theories comparable to behaviorism, with its attempted reduction of psychology to physiology, and to mechanism, with its attempted reduction of biology to physics and chemistry. Take, for instance, first the so-called "geometrization of physics," with its relativistic interpretation of what used to be called a physical force as the discrepancy which arises when the processes of nature are referred to an unsuitable (e.g., Newtonian) frame of reference,<sup>7</sup> and of matter as a disturbance in a gravitational field.<sup>8</sup> One might think also of the "logicizing of physics," whereby a piece of matter is defined as the laws, symmetrical about centers, governing events in empty space.<sup>9</sup> Again, suppose we analyze space-time into what were once regarded as its ultimate elements, point-in-

<sup>6</sup> A. O. Lovejoy, "The Meanings of Emergence and its Modes," in *Proceedings of the Sixth International Congress of Philosophy* (1927), pp. 29, 30.

<sup>7</sup> A. S. Eddington, *The Mathematical Theory of Relativity* (1922), pp. 37-38.

<sup>8</sup> A. S. Eddington, *Space, Time, and Gravitation* (1921), p. 190.

<sup>9</sup> Bertrand Russell, *The Analysis of Matter* (1927), p. 324.



stants; we are confronted by Whitehead's definition of a point of timeless space as a class of event-particles and of an event-particle or point of instantaneous space as a group of abstractive sets,<sup>10</sup> as well as by Broad's definition of points as logical sums of classes of series of volumes.<sup>11</sup> Such a reduction from the field or the terms of one discipline to those of another is still more directly evident in modern work on the foundations of algebra and arithmetic. When a number is defined as the class of all classes similar to a given class,<sup>12</sup> or in any other similar way, we have a plain indication that numbers may, if one analyzes them far enough, be reduced to logical relations, or logical entities, or both.

4. It is evident enough that in the more familiar cases of reductive theories which we know as behavioristic psychology and mechanistic biology, certain synthetic theories—variously held and known by the terms “creative synthesis,” “emergence,” “*Gestalten*,” “holism,” and the like—have been brought up to offset the reductive trends. At the beginning of this paper we supposed for the sake of the argument that such views, which (without at present drawing the finer distinctions) we summed up in the characteristic of “segregation,” are descriptions of what goes on in the realms of matter, life, and mind and account for the transitions between them. And the question arises, Why may we not treat the less familiar reductive theories as we do behaviorism and mechanistic biology? Why not consider the possibility of synthetic interpretations there also? And all these points now taken together lead me to a hypothesis of realms:

### III

The hypothesis which, in the hope of discussion, I would suggest is that, taken now in the order the reverse of the reductive order indicated above, the logical entities, numbers, and the entities or events of geometry-kinematics may be considered to constitute realms prior to and leading in orderly fashion up to matter and life and mind; and that logic, number, and geometry-kinematics are related to one another as matter, life, and mind are related to one another. In order to develop the hypothesis as far as possible here, I shall ask that we look once more at some facts and assumptions concerning matter and life and mind, in order, if we can, to discern there the criteria of realms. We may say that, first, a realm contains an orderly series of what we have called levels. Second, a given realm by its orderly processes throughout its levels leads sooner or later to a level which, although contained within the given realm, marks the beginning of a new realm developed there, with new levels and,

<sup>10</sup> A. N. Whitehead, *The Concept of Nature* (1920), p. 86.

<sup>11</sup> C. D. Broad, *op. cit.*, p. 51.

<sup>12</sup> Bertrand Russell, *The Principles of Mathematics* (1903), p. 115.



if one wishes to use the term, with new emergent qualities of its own. Examples are (presumably) primitive organic compounds in the earth as the beginning of the realm of life, and excitation arcs with neuroid conduction in the sponges as a beginning for neuropsychology. Third—although this, as was said, can not be shown in detail here—the monads of various levels in all realms may, for the sake of the argument, be assumed to exhibit characteristic individuations, appropriations and rejections, productions or reproductions, and segregations into monads of different levels. Fourth, through all the realms of matter, life, and mind, at least, there seems to run a process which we called cumulative coördination. Now I think there are some indications that the data of logic, number, and geometry-kinematics conform to these criteria of realms.

## IV

When we examine the data of logic, to see if logic satisfies our first criterion by exhibiting an orderly succession of levels, there rises as a candidate for recognition the familiar metaphor of “atomic” and “molecular” propositions, which Ogden and Richards have extended in one direction by speaking of “electronic” references,<sup>13</sup> and which any one has virtually extended when he speaks of a “universe of discourse,” or, still more, of “universes of discourse.” Of course, the immediate criticism would be that these are only metaphors; but I would reply first that it seems to me to be at least an open question, and one of no small importance, whether we have not underestimated the significance of some of our metaphors, and whether, after all, the metaphorical may not afford us some of our most fruitful insights into the metaphysical. There is also another answer here, for any one who refuses to deal with such doubtful matters as metaphors; this other answer appears in a consideration of the doctrine of logical types. Whatever else may be said of this doctrine, it seems at least to show that a given range of propositions can be treated in propositions which can not belong to the first range, but which have a range of their own, and that these latter propositions can be treated in still other propositions belonging to still another type, and so on. At least some of the contradictions which have been encountered in dealing with the doctrine of types may be resolved precisely by the recognition that propositions belong to different levels, or at least sub-levels, of inclusiveness and range. Statements about the statements of Epimenides, for example, belong in a different range than statements made by Epimenides.<sup>14</sup> It is easier to detect such differences of level

<sup>13</sup> C. K. Ogden and I. A. Richards, *The Meaning of Meaning* (1923), p. 163.

<sup>14</sup> Cf. B. Russell, *Introduction to Mathematical Philosophy*, (1919), p. 188 f.



in arithmetic and algebra, where the series of powers of a number, as found in equations of higher and higher degree, furnishes, I think, all that is necessary for our general hypothesis. For geometry the same remark could be made with reference to figures of successively higher numbers of dimensions.

We said that the second criterion of realms, as judged by the relation of matter, life, and mind, is that one realm with its processes and levels sooner or later leads to a level which, although contained within the prior realm, marks the initial level of a new realm. Here again it appears that logic exhibits the requisite properties, since terms are included in classes, some of these classes in classes of classes, and some of these latter in classes which are similar to a given class—that is, are numbers. Numbers, with the properties peculiar to them, thus are built up out of, or appear in the midst of, series of classes.

We noted that within their own realm, numbers rise in series of successive powers, which we took to be analogous to successive levels. We come now to a question of considerable difficulty in connection with the hypothesis—the question, namely, whether we may think of the series of powers of a number as giving rise to point-instants, the initial members of the realm of geometry-kinematics. Here I can do hardly more than suggest some approaches to the problem, but I find that there are several such approaches, any one or all of which might serve for the transition. First, Broad in his exposition of Whitehead's method of extensive abstraction defines a point as the logical sum of classes of series of volumes, and holds that thereby he determines a logical function which will do the work of a point and hence for geometry will be a point, no matter what its internal structure may be.<sup>15</sup> But I think one might say that the important function here is not so much that of logical addition, which rules out alternative convergences, but rather the function or relation of inclusion. It is not merely the inclusion of one series within a class of series, but the inclusion of any one member of a series of converging volumes within other members of that series. The essential feature is the relation of inclusion rather than the fact that volumes are what happen to be included in other volumes. It may be objected that in this interpretation I pass unjustifiably from spatial inclusion to logical inclusion; but it may be replied that such a passage is just what one might expect when one sets out to reduce the structures and processes of one realm in the direction of those of another, and that the more familiar results of physiological psychology and of biochemistry represent use of the same principle. I see no reason why Broad's reductive procedure may not

<sup>15</sup> C. D. Broad, *op. cit.*, pp. 39, 51.



be reversed, and why volumes (or areas, or points) may not be treated as relations between series of entities which exhibit the property of inclusion. And if Broad is right in saying that anything which will do the work of a point will be a point, it may be that we can attach a non-geometrical interpretation to the "series of entities which exhibit the property of inclusion" and still satisfy the requirements of geometry. In this connection it is interesting to note that Huntington has worked out a set of postulates for abstract geometry, expressed in terms of the relation of inclusion which he leaves undefined.<sup>16</sup> Now it would seem, further, that series of powers of numbers might exhibit just the transitive relation of inclusion which is here looked for, and that series of powers of numbers might, under appropriate conditions expressed in postulates, do the work of a point. If this is so, minimal segments of such series might be regarded as doing the work of point-instants. There seems to be some cross-classification presupposed in the "cutting out" of a segment of such a series; this suggests a second approach to the problem, namely, that of Whitehead's definition of geometry as the science of cross-classification, the system of which is richer in intrinsic mathematical properties than is the hierarchy of classes essential to the general theory of cardinal numbers.<sup>17</sup>

Still another approach is suggested by Russell's statement that any geometry, Euclidean or non-Euclidean, in which every point has coördinates which are real numbers, can be interpreted as applying to a system of sets of real numbers—that is, a point can be taken to be the series of its coördinates. Russell says that this interpretation is legitimate and convenient when we are studying geometry as a branch of pure mathematics.<sup>18</sup> Finally, if one still encounters difficulties in deriving the properties of geometrical structures from those of numbers, one may here have recourse to such a concept as emergence, and say that, while at present we do not know how to account fully for the transition, we may regard it as being as well authenticated as the transition from matter to life or from life to mind.

The question whether, after a certain number of spatio-temporal dimensions have, as we might say, been generated, one can derive from such spatio-temporal configurations the realm of matter seems actually to be coming into debate in mathematical physics. Here again we find a reductive procedure, where, according to Eddington, Einstein approaches the mathematical expressions from the physical

<sup>16</sup> E. V. Huntington, "A Set of Postulates for Abstract Geometry, Expressed in Terms of the Simple Relation of Inclusion," *Mathematische Annalen*, Vol. 73, p. 523 (1913).

<sup>17</sup> A. N. Whitehead, *The Axioms of Projective Geometry* (1906), p. 5.

<sup>18</sup> B. Russell, *op. cit.*, p. 5.



side; but Eddington approaches them from the deductive side, "endeavoring to show as completely as possible that they must exist for almost any underlying relation structure."<sup>19</sup> It is now becoming increasingly clear that the physical world can be analyzed reductively into relation structures in space-time. Why, then, may we not look, here as elsewhere, for a reverse synthetic process, in which matter—or, to start with, radiations—appear when spatio-temporal frames of reference are superposed? Why may we not, if need be, regard the discrepancies between the frames which we call forces or the conditions which we call "mass" as emergents due to the new "togetherness" of the frames? Such considerations from other realms are no substitutes for equations which have not yet been discovered; but at least they do not hinder the search.

The third criterion, which has to do with parallelisms of characteristic structures and processes, requires a working out of the detailed data on relative individuations, interactions, reproductions, and segregations at the various levels. Although I have done some work on it elsewhere,<sup>20</sup> here it must be left open as a field for exploration. I can say only that, as regards interactions, in logic affirmative predication appears as the appropriation of a relation or attribute by a subject-term, and negative predication appears as a rejection—each with consequent modifications in the structure of a subject-term. Algebraic equations, for instance  $a + b = c$ , are similarly interpreted as processes wherein a part of the left-hand member, by the operation of appropriation indicated in the plus sign and what follows it in that member, undergoes the change registered in the right-hand member. The motions or manipulations of figures in geometry can also be considered in this way.

The fourth criterion of realms was that through them there should run, as we might say, a process of cumulative coördination. If the world consists merely of matter and life and mind, we may say that the process culminates in mind, which in the gradual integration of experience coördinates the other processes. I see no reason why this process does not extend also to the data of logic, number, and geometry-kinematics, nor why mind may not be said to be operating in similar fashion, selectively and progressively, within these boundless realms. Further, I should think that the progressive segregations on the way to mind indicate that each of these realms exhibits in its own manner a cumulative coördination of the preceding realms. If one would use the word with the same caution with which Alexander uses it,<sup>21</sup> he might say that each succeeding realm is the "mind" of the preceding realm.

<sup>19</sup> A. S. Eddington, *The Mathematical Theory of Relativity*, p. 224.

<sup>20</sup> G. P. Conger, *A Course in Philosophy* (1924), Appendix B, pp. 501 ff.

<sup>21</sup> S. Alexander, *Space, Time, and Deity* (1920), Vol. I, p. 44.



My conclusion, then, is that there is a chance for a consistent argument that logic, number, geometry-kinematics, matter, life, and mind form a progressive series of realms offering at least a framework for a realistic metaphysics to be developed in accordance with the data of the various sciences both natural and abstract.

## V

A word more concerning some philosophical consequences. It appears to me now that the theories which regard colors and the like as essences read a neuropsychological process back into the structure of the world, and so belong with what Lovejoy calls "retro-tensive"<sup>22</sup> theories, like panpsychism and hylozoism. The retro-tensive theories are not necessarily wrong, but they ought, I think, to be studied together. I should say that real essences or subsistents are to be found in the realms of logic, number, and geometry; but, on the most economical interpretation, what is essential or subsistent seems rather to be inevitable logical forms than any exemplification of those forms in contentful propositions, and to be numerical and spatio-temporal configurations rather than any other particular object or objects, process or processes. I do not see that it is necessary to read the qualities of our perceptions or the content of our concepts back into any prior realms, any more than it is necessary, as for panpsychism, to read the quality of our feelings, or in hylozoism the quality of our metabolism, back into the physical cosmos. I can see some reasons for such confusions. Because of the cumulative coördination we see everything from the point of view of mind, from the apex of the pyramid, and forget that the base is wider as well as lower than the apex. Moreover, the cosmos exhibits analogous processes of appropriation and rejection, and we forget that these are on different levels. And then, also, structures within each realm have a way of segregating their components by "breaking down" into structures of prior realms. The discharge of a nervous impulse in muscular contraction is a breaking down from neuropsychological to physiological; the death of an organism is a breaking down from biological to physical; and if there is integration between the other realms there is doubtless disintegration also. This last statement raises the question whether any processes at all may be regarded as characteristic of the "subsistent" realms of logic and mathematics. Briefly, it seems to me to be little more than traditionalism which demands that the realm of subsistents be static; so far as I can see, if its processes are reliable and are characterized by certain structural features, any subsistent may be in flux. And I should think the subsistent must either exhibit processes analogous to those of the

<sup>22</sup> A. O. Lovejoy, *op. cit.*, p. 30.



existent realms, or else exhibit certain relations which we from our point of view construe as processes, if the processes which we find to be existent have any deep metaphysical ground. I note that philosophies which deny processes to the subsistent seem to have difficulty in deriving the existent from it.

Finally, it may be noted that such an hypothesis, with its indications that there are at least two realms, logic and number, which are prior to space-time, tends to weaken any spatio-temporal terms or metaphors when these are generalized for use throughout metaphysics. For this reason, evidently "configuration," or perhaps even "type of order" is on the whole better than "level." And evidently the notion of evolution, if it is to be retained as a metaphysical generalization, must be freed from what has sometimes seemed its necessary implication of time.

GEORGE P. CONGER.

THE UNIVERSITY OF MINNESOTA.

### BOOK REVIEWS

*Possibility.* SCOTT BUCHANAN. (International Library of Philosophy, Psychology, and Scientific Method.) New York: Harcourt, Brace & Co., Inc. London: Kegan Paul, Trench, Trubner & Co., Ltd. 1927. Pp. 198.

In reading Mr. Buchanan's essay, the sympathetic student is likely to experience that pleasure which Pascal expressed when he spoke of looking forward to seeing an author and finding, instead, a man. One expects an abstract treatise on epistemology, and one discovers with delight the record of an intellectual adventure and the breadth of personal inspiration.

It would appear that, like so many others who have turned to technical philosophy for aid in mapping out a way of life, Mr. Buchanan found himself at first more than ever bewildered by the plurality of systems offered in the guise of absolute truth. The recourse to technical philosophy, so far from simplifying the problem, seemed only to complicate it the more through the addition of new technical systems to the already existing multiplicity of cultural outlooks. It became necessary, therefore, to find an intellectual principle, a principle of method by which to orient himself through the maze of philosophic systems. The essay on *Possibility* presents some of the results of this preliminary quest.

Readers of this JOURNAL will perhaps recall a brief article by Mr. Buchanan discussing the ontological predicament of current epistemology.<sup>1</sup> It was this predicament which showed Mr. Buchanan

<sup>1</sup> This JOURNAL, Vol. XXI, Pp. 505-507 (Sept. 11, 1924).



the way out of the jungle of intellectual overgrowths. The epistemologist, he pointed out, starts with the copy theory of truth; he believes that the world is as science or knowledge paints it and that to every idea or relation of science there corresponds a real object in the external world. But having started out in this manner, the epistemologist ends up in an *impasse*. He finds it impossible to justify the objective reference of his ideas save by a *salto mortale*, an act of faith which affirms (in the manner of the mediaeval ontological argument) that his idea is such that it necessarily implies the existence of its object. By force of his extreme realism, the epistemologist becomes a naïve idealist! Now for any one who can read the signs, the way out of this predicament is written on its face. The mistake of the epistemologist has been to put discursive or conceptual knowledge on the same plane with the world of sense of experience and to attempt to establish a causal relation between them. Between discursive knowledge and the experience which is known, says Mr. Buchanan, there exists a relation of modality. If the experience which is known be called the actual, then knowledge is of the nature of the possible. And possibility has a peculiar constitution—a constitution which Mr. Buchanan illustrates by means of this figure:

"Possibility," he says, "plays a part like that of the prism in the analysis of light. Just as sunlight is broken up into a manifold of color by passage through the prism, so experience is referred to the concept of possibility and spread out into a thousand and one possible worlds which are to be understood only if they are known to be so produced."

The figure needs to be interpreted. The first thing that is to be noted is the refractive power of possibility. Possibility breaks up the actual into a thousand and one fragments. And each of these fragments may be broken up (in a way that is perhaps not directly suggested by the figure of light) into a thousand and one sub-fragments. Knowledge as possibility may in turn be made the object of a second knowledge, reflecting a possibility of a higher order, and so on *ad infinitum*. The world of possibility is thus radically refractive—radically expansive and pluralistic, one might add. But in proportion as we expand the realm of possibility, to that extent does it become more and more abstract, more and more removed from concrete actuality.

Offsetting this refractive nature of possibility, is the qualification laid down in Mr. Buchanan's figure that the world of possibility, the world of discursive knowledge, can be understood when we retrace our steps and know the manner in which possibility is generated out of actuality. Were it not for this proviso, the identification of



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## THE LOGIC OF THE CASE METHOD

THE successful employment of the "case method" as a pedagogical device in the Harvard Law School has been recognized, not only by its adoption in other law schools, but also by the employment of the "clinic" in medical education. This method reflects in some measure the process of accumulating, during the last few centuries, a body of case material in the British and American law reports and in the *Boston Medical and Surgical Journal*. Within recent years, the New York County Bar Association and the American Association of Engineers have published<sup>1</sup> their examination and interpretation of several hundred specific professional problems. The *Harvard Business Reports*<sup>2</sup> contain still further additions to this growing body of case material. It will be the purpose of this paper to examine certain logical presuppositions underlying the collection and utilization of such social data.

### I

Since the case method is employed largely with reference to social situations, it is dealing with problems relatively more complex than are to be found in the natural sciences.<sup>3</sup> The relatively fixed character of physical objects and the relatively limited extent of natural events render them more amenable to experimental control; while the isolation of elements and repetition of factors available even to such non-experimental sciences as astronomy and geology are seldom attainable in social situations. All the complexities of the organic sciences are present in social relations, but the latter involve additional factors which result from the real or pretended control which human beings assume over nature and over each other. Interests, prejudices, errors of judgment, whims and caprices, all enter into social situations, making them reflexive and involved. For example,

<sup>1</sup> *Questions Respecting Proper Professional Conduct*, 165 Broadway, New York, "Practice Cases," *Professional Engineer*, 63 East Adams Street, Chicago, respectively.

<sup>2</sup> A. W. Shaw Company, Chicago, 4 vols., 5th vol. now in preparation.

<sup>3</sup> See Thomas' excellent "Methodological Note" introducing Vol. I of *The Polish Peasant in Europe and America*. The works of Lévy-Bruhl and Durkheim are, of course, basic.



quotations of the New York Stock Exchange reflect business conditions, but they also reflect judgments as to such conditions and they can to a certain extent be manipulated so as to affect the business conditions and judgments of which they are supposed to be symptomatic. So also a book may "aim to develop a method of forecasting conditions" in the iron and steel industry, but the knowledge disseminated by the book may appreciably change conditions, at least so as to make the analysis contained in the book inadequate to just the extent of failing to take that knowledge into account.

Two major paradoxes confront the student of social phenomena. The abstraction and economy of factors necessary to a thorough observation, let alone experimental manipulation, of particular situations render these socially unreal; any attempt at repetition or comparison for purposes of verification or generalization being subject to the same limitation. Secondly, the "detached" attitude which the natural scientist regards as indispensable to the validity of his results, and which he in considerable measure achieves, is opposed to any intimate or thoroughgoing knowledge of human affairs. Historian-politicians, like Roosevelt or Lodge, or financiers, like Henry Clews, who are "inside" the human drama, alone can tell the real story; but when they essay a "plain, unvarnished tale" they must be held suspect, for their wishes may have become fathers to deeds which, whether legitimate progeny or not, have nevertheless pragmatically appeared on the scene.

Although these difficulties have long been recognized, students of social phenomena frequently become envious of the exemplary simplicity and methodological rigor of the natural sciences. One unfortunate result has been a premature adoption of the name—one nowadays takes for granted the term "social sciences"—without a compensatory achievement of the substance. A more serious effect of stressing the analogy has been the attempt to make these social "sciences" walk on all fours—and often at sixes and sevens, as in the perversion of "statistical" and "laboratory" methods—in slavish imitation of methods which are not only inapplicable and viciously deceptive, but fruitless and even derogatory to the more important possibilities of social inquiry.

## II

The "case method," although sometimes unfortunately heralded as a panacea, has made a unique and important contribution to the problem of social methodology. Its peculiar and essential characteristic is that it accepts a certain description of a situation as a "fact." In the natural sciences description is merely an incidental symbol of the object or event to which it refers; any discrepancies disclosed



by a further "appeal to the facts" call for a correction of the symbols. In the social studies there will always be a greater variance in the descriptions given of phenomena, for there is never an identity among the points of view nor agreement as to the extent and context of the situation or the relative importance of the factors. Hence the need of some identical ground, factual or descriptive, as a basis for interpretation. The description of the social phenomenon, preferably written and either generally accepted as appropriate or officially declared to be so, satisfies this requirement of identity. Furthermore, the description becomes a sufficient substitute for the phenomenon: for not only does it bar further inquiry into the "actual" events which gave rise to the description and which are now irrevocable anyway, but as is specifically the rule in law, "a fact is no longer a fact after a duly constituted court has found to the contrary."

Illustrations of what is here referred to as "description" are abundant in the law; one will suffice. In the so-called New England Oil Cases, the receivers had submitted to the Court a printed plan for reorganizing a company and had secured the sanction of the Court for proceeding according to this plan. When, however, it was later disclosed that the receivers had not followed the plan, but had proceeded in a self-interested way detrimental to the stockholders, the Court refused to sanction their procedure in spite of the fact that certain typewritten documents, appended to the plan, anticipated to some extent the procedure actually followed. Asserting that "the printed plan controls,"<sup>4</sup> the Court, although it had not specified the administrative details of the plan, denied that the typewritten documents represented a fair and equitable interpretation of the plan. Listing the "documents of controlling importance,"<sup>5</sup> the Court enumerated among other items: (3) the printed plan of reorganization and (6) the report of the receivers upon the plan of readjustment; the typewritten additions to the plan were not listed. And because (6), in spite of its compatibility with these typewritten additions, was inconsistent with (3), the Court insisted that the receivers revert to the printed plan and make proper restitution to the defrauded creditors.<sup>6</sup> The method is not new; it has, however, so obviously become the proper method in certain forms of social thinking that we have failed to apply it to others. In all social methodology, an accepted and preferably printed description of a phenomenon, whether diagnostic or prognostic, is the factual basis upon which all scientific inferences and procedures rest.

<sup>4</sup> *Parker vs. New England Oil Corporation*, 4 Fed. 392, 395, (N. S., 1924).

<sup>5</sup> *Ibid.*, 8 Fed. 392, 394, (N. S.), where the case is continued.

<sup>6</sup> 8 Fed. 392, 401.



## III

Who is capable of so well formulating the descriptions of social events as to secure the agreement of others? Practically this is what judges have been doing for centuries, partly by virtue of their authority, partly with the aid of a rigorous procedure to the development of which they have themselves contributed, but partly also by virtue of a trained intuition, so well exemplified in Chief Justice Marshall and Mr. Justice Holmes. And in the absence of the authoritarian element, particularly in business relations, it is this procedure and this insight which have more recently been recognized as necessary to, and present in, the systematic development of professional and business ethics, the intuitive factor manifesting itself especially in the evaluations which must follow and which are based upon the necessary comparisons and distinctions. Recognized professional and business leaders are assuming the responsibility of formulating their group interests and social functions.

That this "expert" rôle is guilty of the fallacy of circular reasoning—opinion selects and sanctions the experts who in turn modify and control opinion—would be true only if "opinion" here represented an identity of terms. This identity is no more exactly and persistently present in the social process of formulating and administering expert judgment than it is in the familiar "hen and egg" paradox or in the field of art criticism. Indeed, this observation applies equally well to natural scientists, when, e.g., they discover canals on Mars or sensitiveness to music in metallic tin. Furthermore, when we view the broader phases of social or natural phenomena, it is difficult to distinguish between the intuitive power of a Christ or a Buddha and that of a Newton or an Einstein.

These broader revolutionary re-orientations are duplicated in miniature in every single act of judgment worthy of the name. The problem of "expert" testimony and judgment arises in each particular case. Not only is the perception of social events colored by intuitive insight, but the interpretative judgment practically becomes part and parcel with the statement of the case. The clear-cut distinction between "fact" and "interpretation" required by the natural sciences is frequently impossible in recording social events and is often undesirable. One should become suspicious of those who, like the chancellors of former days, declare their will to be "the will of God," or of those who assert their interpretation of the Constitution to have historic validity. An honest admission of the integral part played by expert as well as by other kinds of opinion in social phenomena is necessary to an accurate as well as adequate social methodology. The case thus serves as an instrumental medium



between the "actual" phenomena and those rules and principles which form the abstract or ideal legal or ethical system.

It is on this point, of the relation of opinion to social facts, that the distinction must be made between the employment of the "case method" as a pedagogical device and its use as an instrument for generating a science of social phenomena. The question as to whether opinions or commentaries or decisions are or are not to be included in the descriptive case material confronts the student of educational policy, and his decision will be determined by his view as to the possible "transfer" of learning or as to the relative importance of content and mental discipline. The authors of some twelve or fifteen case books on business problems<sup>7</sup> have deliberately avoided including comments. The cases are so arranged and presented, however, as to secure to some extent in the student's mind a nuclear content and a sense of continuity and development of business practice. Mr. Cox's case book in ethics<sup>8</sup> includes the judicial opinions, but no ethical comments. Opinions are thus more freely elicited from students, the instructor can then add his own comments, and the business or judicial or ethical decision may be withheld altogether or postponed to the latter part of the discussion. The liveliest classroom discussions can be elicited from cases which have just arisen and which have not yet been decided by anyone.

In the employment of the case method, another essential distinction between classroom use and the empirical treatment of reports is discoverable especially in the attitude toward relevance. The classroom teacher may resort to such artifices as could not be tolerated in case reports: introducing red herring trails of nonpertinent material, confusing hypothetical and categorical statements, and withholding or delaying the real facts or the actual decisions. In a scientific case report system, however, the compelling necessities are the adequate, economical, and balanced treatment of descriptive factors. In the British and American law reports, moreover, the decisions are integral and essential parts of the cases; so likewise in the cases of professional and business problems dealt with by the New York County Bar Association and the American Association of Engineers, and in the *Harvard Business Reports*.

#### IV

The importance of including the decision in the case becomes further apparent when viewed with reference to the rule of *stare decisis*. The judge theoretically can not legislate; he must "find"

<sup>7</sup> A. W. Shaw Company, Chicago.

<sup>8</sup> *The Public Conscience*, Henry Holt, New York.



the law and apply it to the new situation which has arisen. But in applying the concepts of the law or of professional practice to the facts of human experience he is faced with the problem of relating the universal to the particular. At law some cases are the first to arise under a recent statute, but usually the case resembles some previous case on which a ruling has been given. To determine the common underlying elements, whether of statute and case, or of precedent and case, calls for definitions and interpretations which contribute to the growth of an existing body of doctrine. The law thus becomes an organic instrument sensitive to social changes, but modifying and controlling them. It is inevitable that the resulting judgment, involving both understanding and interpretation, will be colored by the concepts already developed in the social or legal system; while the concepts, themselves an interlarding of fact and interpretation, become modified in view of their applying or not applying to the situation, by their inclusion or exclusion of the case as an instance.

This is just what happened in the origin and historical development of case law. Henry Bracton,<sup>9</sup> the father of case law, not only exhibited rare insight in selecting representative cases—he collected only a few hundred, covering a period of some 20 years,—but he included the decisions as an essential part of the cases. Furthermore, he did not scruple to criticize these decisions for their failure to bring out the underlying principles. Those who favor the pedagogical policy of excluding decisions from cases do so in order to safeguard the independence of student criticism. But such decisions are essential to the development of the body of law or of recognized professional practice. And students of social phenomena should fear no more than Bracton did to allow the “rapier of reason”—Mr. Powell’s delightful phrase—“to pierce the ermine.” This critical attitude is the final step of the series of acts, beginning with a careful selection of cases, establishing a workable continuity<sup>10</sup> between the particular case and the universal concept.

In the process of seeking a precedent for the particular case which is before the court or before a professional practice committee, *stare decisis* stresses the authoritarian element in the previous decision. The normative character of law and professional ethics, furthermore, encourages the syllogistic form of reasoning. But business policies can not be so determined any more than can medical practice, for these problems are administrative rather than litigious

<sup>9</sup> See Maitland, *Bracton's Notebook*, intro. He quotes, p. xix, Vinogradoff's letter to the *Athenæum*. See also Lee, *Historical Jurisprudence*, pp. 483 ff.

<sup>10</sup> See, on this point, “‘Contiguity’ and ‘Sufficient Reason,’” this JOURNAL, Vol. XXIII, pp. 407 ff.



or adjudicative. Historical inquiry discloses, however, that the rule of *stare decisis* was prevalent during the Middle Ages in all departments of thought, including economic and medical theory. Its presence today, in law and in professional ethics, is therefore not necessarily indicative of a modern positive impulse,<sup>11</sup> nor does its absence elsewhere point to the contrary. Indeed, its presence elsewhere, e.g., in theology and education, as well as in business and medicine, frequently exhibits the useless and even harmful characteristics of a vestigial organ. This observation does not warrant an unqualified condemnation either of the rule of *stare decisis* or of the case method with which it is related. But it is offered as a critique of the situation. The rule works better at certain times and in some fields of activities than it does in others, it has its place and it has a history. And the successful employment of cases as a pedagogical device is not to be confused with the possibility of integrating cases into a systematic body of accepted and successful business or medical practice, although it may in some measure influence the way in which that objective is to be attained in whole or in part.<sup>12</sup>

## V

The question arises, How far can one pursue the analytical-functional interpretation of principles which is implied in case material? Aristotle wrestled with the problem and concluded that science should "neglect nothing" in its observations and should then by insight seek to change the status of elements, even if they appear to be insignificant, from that of accident to that of differentia. In art this principle leads to the view that "Beauty is as beauty does"; in the social-ethical field it easily led the Hebrews into casuistry, a labyrinth in which the case method of medieval church and guild, especially when it was obsessed with the nominalistic point of view, became hopelessly desiccated. Although the extreme functional view would treat the sum total of cases as equivalent to the principles, the more moderate view of Bishop Pecock<sup>13</sup> was that the cases at least must supplement the declaration of principles in order to clarify the latter and to supply their inadequacies. Certainly a *Real-ethik* can accept nothing less than this.

The Law recognizes at least three levels of generality, principles,

<sup>11</sup> See Nathan Isaacs, "How Lawyers Think," *Columbia Law Review*, Vol. XXIII, p. 559.

<sup>12</sup> See on this point, W. B. Donham, "Business Teaching by the Case Method," *American Economic Review*, Vol. XII, No. 1, 1922, especially in regard to the related problems of classification and codification.

<sup>13</sup> See Tawney: *Religion and the Rise of Capitalism*, p. 50, and note.



rules, and cases. These three levels tie into one another fairly readily, although no one of them exhausts the possibilities implied by the other two. Professional and business ethics, as practically developed in recent years, recognizes two of these levels, but has been characterized by a consequent dualism between sentimental "codes" on the one hand and casuistic "cases" on the other. The latter extreme is particularly inexcusable in view of the fact that the cases so far formulated number less than those which Bracton himself collected without going to such an extreme of particularity. The *Harvard Business Reports* have been more carefully selected and are more adequately representative of typical situations, but the commentators have become increasingly cautious as to the enunciation of "principles" and the setting of precedents. This attitude, warranted to some extent by the nature of business problems, confines the decision to the facts *as presented* in the particular case. This extreme particularization has occurred in the law, but largely by virtue of the "combative" theory of litigation which restricts the facts to such as are presented by the opposing litigants. This makes it all the more necessary, in the development of a system of business practices, that the case be carefully selected from "seasoned" practice.

Whether there is any necessary connection between the hypothecating of cases and casuistry,<sup>14</sup> it is difficult to say. But no one can deny their coincidence in Leviticus, in Druid law, and in many canon and guild regulations of the medieval period. The vital quality of real, as opposed to hypothetical, cases becomes apparent to anyone who employs them in a classroom. The fact that law courts have refused to entertain hypothetical cases or to interpret statutes prior to the bringing of actual and pertinent cases, has had much to do with the convincing quality of judicial decisions and the building up of an organic body of law. True, the courts will entertain hypothetical questions, and recently have tended to do so more and more; but only in connection with other facts and in relation to real litigation. Given an unbridled opportunity to concoct hypothetical cases, the courts might have more completely exhausted the possibilities of human conduct, in spite of crowded dockets; but the dangers of attempting to anticipate and outstrip reality have been too apparent. This judicial caution could well be imitated by such impatient social groups as contemplate a millennium in their attempted control of professional or business practices. Like English gardens and the golf-greens of Scotland, these require centuries of careful attention before they will be worthy of confident use and encomiums.

<sup>14</sup> See Dr. Richard C. Cabot's introduction to Cox, *The Public Conscience*, p. xiii.



The hypothetical question can easily assume a form which places it in the penumbral class consisting further of *obiter dicta* and minority judicial opinions. The law of parsimony would call for economy in the inclusion of such details, hypothetical as well as casuistic, in the interest as well as paradoxically at the expense of reality. One might suppose that the modern evolutionary view of survival would afford a hope that such concoctions and details would inevitably be eliminated in the struggle for survival. But the dominant characteristics of a sturdy organism can sweep along with them many integrated factors that are useless and even harmful. Just so with the case, which ideally would involve merely a single issue and its pertinent factors, but which actually never presents a simple situation. Hence details which are insignificant or non-pertinent must be disregarded, making the case to that extent abstract, or they may elicit observations which come to have an important and perhaps even dangerous bearing on future situations; and chaste abstraction is preferable to pregnant hypothetical concoction.

## VI

Although the technique of manipulating and controlling human activity is not properly a part of the logic of social studies, performance and the sanctions which secure it are methodological implications of the functional interpretation of case material. A characteristic of early Christianity was its emphasis on the *doing* of the right rather than on the mere *knowing* of it, and the Greeks recognized the necessity of a doctrine of practice, or "deontology," as a complement to abstract theory. We can not, however, in a paper of this scope, deal with the technology of eliciting or controlling human behavior, which is a problem of ethics rather than of logic. But there is something to be said for a sanction which seems to be intimately connected with the development of case material. Knowledge of, familiarity with, concrete elaborations of principles secures their acceptance to a degree which reduces to a minimum the necessity of relying on the "sheriff and his posse" for the execution of a court order or of using the grosser professional or business sanctions. Through this medium it becomes possible to "reason with" a person in order to convince him or society as to a course of conduct. Thought, when it so deals with specific case-forms, must divest itself of many of its sentimental and hypocritical garments. Professional "principles" and business "codes" too often are merely delightfully ineffective sublimations of corrective needs, applying a much-needed salve to the pricks of conscience or to the irritations of an aroused public. Cases, however, have a way about them of clearly indicat-



ing what the situation calls for, and they exhibit their most characteristic and powerful contribution in this functional test.

When one considers broader social conditions, however, one may seriously question the educational value of the case method. The Englishman, for all his common law practice and case thinking, has not acquired a reputation for that clarity of thought which is held to be the objective of the case method and its pedagogical justification. But it is the United States of America, with its century of legal discipline in the case method in addition to a materialistic and pragmatic attitude, that presents the puzzle. How is it that with such a background and training, we allow our policies—internal with reference to industrial and agrarian legislation, or foreign, with reference to our relations with Russia and China, for example,—to be determined almost wholly by prejudice or sentiment, with no seeming regard for the specific implications of a policy of *Realpolitik*? Our legislative acts, in view of their non-enforcement, are abstract rather than concrete universals. This trait appears particularly prominent by contrast with the clarity of Latin thought. At Versailles Clemenceau always agreed “in principle” with the American suggestions, but constantly discovered unexpected implications or such as were at variance with those ineffably intended. In our dealings with Mexico it is apparent to any perspicuous reader that the American oil claims are general and absolute to the point of being meaningless, while Mr. Morrow’s recent use of the term “sovereignty” carries implications which flatly contradict them; the “functional” interpretations of the Mexican government much more clearly anticipate the working out of the problem. Now, France and Mexico are Civil Law countries, relying on codification and administrative interpretation rather than on case law for growth. Evidently the case system, which has grown up in the Common Law of England and America, is not by itself a sufficient basis for developing logical exactness and completeness or for engaging in pedagogical enthusiasms.

The solution of this paradox comes back to the process of description. The clarity of French thought is well exhibited in the *procès verbaux*, the authentic written minutes or reports of an official act or proceeding.<sup>15</sup> This “flesh-and-bones” definition does not do justice to the spirit of the *procès*. The exactitude and luminosity with which scribes recorded the transactions of the committee which formulated the *Code Civile* were at once symptomatic of the thought-processes of the committee and at the same time were generative of later clear legal thinking. It is doubtful whether we have

<sup>15</sup> See Pierre Crabitès, “Napoleon Bonaparte and the Code Napoleon,” 13 *Amer. Law Journal*, 439; August, 1927.



this mental facility in America, and it is still a matter for the future to determine whether an effort on our part to think clearly will have either immediate or far-reaching results. We may at least speed up the process and anticipate what seem to be desirable but long-delayed results by intelligently developing appropriate methods. The case method offers at present a field, at least for empirical, and possibly for fruitful experimental, study. Its basic prerequisite is the accurate and adequate description of a social fact.

C. F. TAEUSCH.

HARVARD UNIVERSITY.

## NECESSITY

MANY of the discussions which have occurred in connection with the problems of freedom *versus* determinism, necessity *versus* contingency, uniformity *versus* chance, etc., have labored under an unsatisfactory definition of the terms involved. This is not surprising when one realizes the various ways in which these terms may be justifiably employed. But it is essential to any sound conclusion that these many meanings be sharply differentiated. *Quaternio terminorum* is one of the commonest as it is one of the most insidious of fallacies.

This paper is an attempt to differentiate as clearly as possible some of the outstanding meanings of the term "necessity." The term applies, as we shall see, primarily to elements of knowledge rather than to events. The word "concept" will be used throughout this discussion to designate an element of knowledge, i.e., to include both concepts proper (simple, unanalyzed concepts) and complex concepts (propositions, laws, generalizations).

1. *Subjective-subjective Necessity*.—A concept is necessary if it follows by accepted processes of deduction from other concepts which are themselves accepted as true in one of the many meanings of the word, e.g., self-evident, postulated, "convenient." The truth of the original concepts is conveyed to the derived concepts. Let us characterize the derived concepts as *formally necessary* in this case. There are at least three types of formal necessity. If the conceptual system is built up on the basis of classes, the implicative relation will generally be that of class inclusion, or from species to genus. Let us call this a *formal necessity of class inclusion*. If the conceptual system is an efficient causal system, so that given the concept of the cause with the addition of the time element we may infer the concept of the effect, then the type of formal necessity may be called a *formal causal necessity*. In a strict causal conceptual system this implicative relation is reversible so that from the concept of the



cause earlier we may derive the concept of the effect later, or from the concept of the effect later we may infer the concept of the cause earlier. In other words there is neither plurality of causes nor plurality of effects in a strict causal system. The reversibility of this relation, together with the fact that the concept of the effect frequently has an additional element of value, introduces a further kind of formal necessity which might be called a *formal instrumental necessity*. Whenever in an efficient causal correlation the effect possesses value, then the cause-effect correlation may also be interpreted as a means-end correlation. In this case the realization of the final value of the effect is dependent upon the realization of the instrumental value of the cause. We express this by saying that the cause is necessary as a means to the effect which is an end. In a properly developed final causal system, it will always be possible to derive by logical implication the means from the end. In this case the concept of the means possesses instrumental necessity.

2. *Objective-subjective Necessity*.—This type of necessity occurs in two forms, in both of which cases the concept may be said to possess necessity by virtue of the "compulsion exercised by the objective or real upon the thinker."<sup>1</sup> The first and the simpler of these two forms might be called experiential necessity. A concept is *experientially necessary* when the fact which constitutes its reference is directly given in perception. Facts, we say, are stubborn, events are what they are, we can not think the world other than it is. This applies either to descriptive laws (empirical generalizations of the enumerative type) or to assertions of particular fact. The sun is necessarily shining to-day, for example, because I find it impossible to believe otherwise. It should be pointed out that we do not attribute the necessity to the event, but to the assertion about the event. The sun does not possess the attribute of "being necessarily shining," but the proposition, "the sun is shining to-day," is a necessary proposition at the time when it is asserted. The second of the two forms of objective-subjective necessity has to do with the empirical basis for the logical relation of implication. When a given relation between events occurs repeatedly, the proposition expressing this repeated occurrence possesses a double necessity. It possesses the simple experiential necessity in the sense that we are compelled to believe in the existence of the correlation wherever it has occurred. But it possesses another type of necessity which might be expressed by saying that "it always happens this way." Thus the simple concepts which go to make up the proposition or law become necessarily related in such a way that we affirm an implicative relation between them of one of the three types suggested

<sup>1</sup> W. E. Johnson, *Logic*, Vol. 1, p. 60.



under the first meaning of necessity, i.e., an implicative relation of class inclusion, in which case we have what is usually called an analytic *a posteriori* judgment (sometimes designated a descriptive law); an implicative relation of efficient cause, in which case we have an efficient causal law, or an implicative relation of means to end, in which case we have a purposive or final causal law. This type of necessity might be defined as follows: a concept is necessary when it expresses universally a correlation which is found to hold in many cases and without exception. For the purpose of differentiating this from the other type of objective-subjective necessity, it may be called *inductive necessity*.

3. *Subjective-objective Necessity*.—Given the conditions for formal necessity (an implicative system) together with an instance of the implicans, then the particularization of the implicate is necessary. This is the ordinary *modus ponens* of the hypothetical syllogism in which the minor premise is a singular proposition. It may be called a *necessity of particularization* where particularization is a name for the process through which a concept, by virtue of having taken on limiting attributes, becomes exemplified in a corresponding event. Thus if you tell a friend that you "will meet him in Times Square at noon to-morrow," the essential thing about this assertion is the particularization of the concept "yourself at Times Square noon to-morrow." Now if such a particularization is necessary due to the existence of a formal conceptual system and the occurrence of an implicans of that system, then we have a necessity of particularization. Two things must be pointed out with regard to this type of necessity. In the first place it depends upon the subjective-subjective necessity. The necessity with which the implicate must be particularized is no greater than the necessity with which the implicate follows from the implicans. In the second place it is not the event itself which is necessary in this sense, but rather the particularization of the implicate. This particularization is necessary because the implicate takes on as a result of the implicative relation the spatio-temporal determination of the implicans. For example, we have a causal conceptual system "friction causes heat," which for the moment we may suppose to be a strictly necessary system. As a result of the occurrence of the implicans the formal relationship becomes "friction here now implies heat here soon." Thus the concept of heat takes on the additional modifiers "here" and "soon" by virtue of which it becomes necessarily particularized. The event itself is not necessary as can be easily seen from a few considerations. We say that the *occurrence* of the event is necessary, not the event itself. Furthermore we speak of the occurrence of the event as being necessary before the event does actually occur; but an event



could hardly be necessary before it occurs, for there is nothing to which we may attach the attribute of necessity. Again we speak of the occurrence of an event being necessary even though our expectation that the event will occur is not fulfilled. Certainly in this case the event does not possess the attribute of necessity. Thus the subjective-objective necessity remains in a certain sense a subjective-subjective necessity, for, although it is a necessity which reaches outward, it is still a necessity of concepts.

4. *Objective-objective Necessity*.—An event is necessary when another event compels its existence; this is the necessity of objective causal connections. I shall try to show that it is only a supposed necessity and can be reduced to a combination of the other types of necessity. For if an event is objectively necessary it must be so either by itself or by virtue of its relation to another event. Now the only sense in which an event can be necessary by itself is the sense in which whatever exists is necessary. But this either makes necessity synonymous with existence, or else involves an implicit assumption of "the unity of things" in which case necessity has become a relation of the event to the totality of events or to one among this totality. So that an event must possess necessity because of its relation to something else. But no relation, having occurred only once, can be characterized as necessary; necessity is an attribute of relation only as a result of its repeated occurrence. Any given relation is simply what it is—a relation of temporal coexistence or temporal succession, a relation of spatial distance or spatial direction, a relation of similarity, etc. But when any one of these relations occurs repeatedly, as was shown above, it exerts upon the mind a certain degree of compulsion and results in the formulation of this repeated occurrence in a law. The law is simply a shorthand way of saying that the correlation repeats. The law then possesses experiential necessity in the sense that we are compelled to believe it as an expression of all observed cases, and inductive necessity in the sense that we are compelled to infer, under the pressure of the large number of observed cases, a necessity of formal implication between the concepts designating the occurrences. Now the necessary relation which is supposed to hold between the events becomes an inference from the formally necessary relation between the concepts. Thus the connection between the events is necessary because the law is necessary, and the law is necessary because the occurrences are repeated. Putting it roughly we may say that the experiential necessity passes into inductive necessity; this becomes formal necessity; formal necessity when combined with an instance of the implicans is transformed into subjective-objective necessity, and the result is the attribution of necessity to the event itself. Hence



objective-objective necessity, though it may be supposed to have a status independent of mind, is analyzable into the subjective types.

Corresponding to these three fundamental meanings of the term "necessity," there are three senses in which a concept is lacking in necessity.

1. A concept is lacking in necessity when it does not follow by accepted processes of deduction from other concepts which are themselves accepted as true. There are three sub-cases here. (These are not to be correlated with the three types of formal necessity, but are rather three different ways in which each of the types of formal necessity may fail.) A concept may not follow from other concepts (a) because we are ignorant as to those more fundamental concepts, (b) because there are no concepts which are more fundamental, (c) because we do not *choose* to perform the operations involved in deriving our given concept from its basis. Let us consider each of these.

1a. It is impossible to look upon a concept as formally necessary if we do not know from what more fundamental notions it may be derived. The 47th proposition of Euclid is not necessary unless we see its basis in previous propositions. The jumping of the electrons from one ring to another is not necessary unless we know of a concept of a more fundamental nature (its cause) from which it may be deduced. Honesty is not necessary to success unless we can derive the notion of honesty as an instrument from the concept of success as an end. This is one of the many meanings of the word "chance," i.e., ignorance as to cause—formal, efficient, or final. A concept which is lacking in necessity in any one of these three senses is not permanently so. For the desired basis may be found upon further examination, or, failing this, it may be invented by the fictional activity of the mind. Such a stage is found in the development of every science; it is a stage in which our knowledge is spoken of as "empirical" rather than necessary, where by empirical we mean a necessity which, due to the obstacles arising in the acquisition of knowledge, is incompletely attained.

1b. A concept is lacking in formal necessity if it has no basis in more fundamental notions. This is more definitely negative than the preceding case, for it involves absence of basis rather than ignorance as to basis. Such an attitude toward a given concept is definitely incompatible with the view which attributes to it formal necessity. But the issue is definite and the burden of proof rests on the shoulders of the one who affirms the necessity. The only answer to the assertion that there is no basis is to reveal that basis.

1c. A concept is lacking in formal necessity if we do not choose to perform the operations involved in deriving it from its basis.



This is one of the most interesting senses in which a concept lacks formal necessity even though it is an element in a rigid deductive system. For every deductive system involves operations. An operation is an action which conforms to a rule. But an action may or may not be performed. A deductive system says essentially this: given certain fundamental notions and certain fundamental operations, if you perform the required operations according to the required rules upon the fundamental notions, you must obtain such and such a result. But if I refuse to perform the operations, the cogency and therefore the necessity of the deductive system is lost. Euclid is not necessary to the stubborn school boy who refuses to make the required constructions. This is one of the senses in which deduction may be said to give us *new* knowledge. Hence every concept, though an integral part of a deductive system, contains an element of contingency.

2. A concept is lacking in experiential or inductive necessity when the compulsion of the real upon the thinker is short of absolute. A notion which is lacking in either of these types of necessity is usually spoken of as being more or less probable according to the degree of compulsion exerted. With regard to propositions possessing only experiential necessity, i.e., assertions of single fact, there seems to be no way of measuring the degree of compulsion, though in most cases it is possible to eliminate the inferred material by a critical skepticism and to reduce the "given" to a minimum concerning which we may be relatively certain. Propositions possessing inductive necessity as well, i.e., assertions of universal connections, usually fall short of absolute necessity and are more or less probable. This is the sphere for the application of the inductive theory of probability in which Keynes, Russell, and Nicod have been active. Here the degree of probability may be measured and one may arbitrarily postulate any desired probability, say 99/100, as equivalent to practical necessity.

3. A concept is lacking in subjective-objective necessity when it fails to fulfill one or the other or both of the conditions presupposed in this type of necessity. More specifically, granting the presence of the first condition, i.e., formal necessity (concepts lacking formal necessity were examined above), a notion may be lacking in subjective-objective necessity (a) because an occurrence of the implicans is lacking, (b) because we are ignorant as to the occurrence of the implicans, (c) because thought can not determine things. Let us examine each of these.

3a. The arguers for freedom commonly emphasize the fact that every scientific law is merely *hypothetical*, that it is compulsory only when there are instances of the antecedent. Furthermore, since the



instances of the antecedent are usually produced by the free action of an individual, freedom is a fact. Regardless of the success with which this argument demonstrates freedom, it does introduce a distinct limitation into the necessity of a conceptual system. Any element of the system is necessary only as an element of the system, i.e., is only formally necessary, and it does not convey this necessity upon events in a pure form. The necessity with which any event occurs is contingent upon the occurrence of another event which is itself undetermined. If this other event is lacking, the necessity is entirely destroyed or at least reduced to a purely formal necessity. Falling to the pavement follows necessarily from leaning too far out of the window. But, of course, one need not lean out of a window. In a word, the occurrence of an event is lacking in necessity because it possesses a necessity which is only contingent.

3b. When we are ignorant as to the occurrence of the implicans we commonly refer to the occurrence as a chance happening, though in two quite distinct ways. According to one of these meanings, the occurrence of an event is a chance happening because it is one of many effects resulting from a given cause. This is the stage of incomplete analysis and plurality of causes and of effects. It is a transitory stage and must disappear when the science becomes more mature. It is the stage in which we make up for the fact that our knowledge is only partial by the substitution of the mathematical theory of probability. For example, one throws a die resulting in a six. This is said to be a matter of chance. Formally it is not necessarily so, for given a certain original position of the die, a certain momentum of throw, a certain degree of resistance exerted by the surface upon which it was thrown, the occurrence of a six follows necessarily. But it did not occur necessarily because, although we knew the cause in general, i.e., the throwing, we did not know it specifically, i.e., the position, momentum, resistance, etc. Hence we have a situation involving plurality of effects and we speak of the occurrence of any one effect as a matter of chance. According to the other of the meanings of chance, the occurrence of an event is a chance happening when it is unforeseen, though not necessarily unforeseeable. This attribution of chance to an occurrence always takes place after the event has occurred. It usually is the result of an attempt to find an explanation for an event which is of great significance in the life of the individual. For example, you are taken ill just as you are about to leave for a trip abroad. Here the causal factors which resulted in your illness may be clearly seen after the event occurs. It all happened because you went without your rubbers during the heavy rain of two days before. But the event is spoken of as a chance happening because it was not anticipated or expected,



i.e., simply because, although you knew the causal relationship between going without rubbers and pneumonia, you did not consider your particular going without rubbers as a premise permitting you to infer pneumonia in your case. Practically every occurrence is a matter of chance in this sense, but we do not attribute chance to all such events simply because we are not interested in accounting for most of the events of our lives. This is one sense in which the Bergsonian conception of freedom is a valid notion. We see necessity when we look at the event in retrospect; in prospect the event is undetermined.

3c. Granting the existence of a formal conceptual system, granting also the occurrence of the implicans and our knowledge of this occurrence, there is still a sense in which the occurrence of the implicate is lacking in necessity. Thought can not compel events; the individual can not be completely grasped by thought and no multiplication of universals will ever "produce" the individual. It is an unescapable fact that the class of which an individual may be the only member is not the individual itself. The membership of a class can not be determined by "pure logic." Existence is an empirical concept and not capable of being formulated in logical terms. Consequently no logical necessity can ever compel existence. It has been suggested that the planet Neptune must necessarily have existed because it was necessary that the concept "cause of the misbehavior of the planet Uranus located at a certain quarter of the heavens at a certain time" be particularized. But the notion of such a cause being necessarily particularized is obviously a shadowy ghost beside the existing planet Neptune. For Neptune possesses existence, which the concept did not possess. That is why verification is always so gratifying; it contributes an additional element not found in thought, not capable of being grasped by thought, and not in any way necessitated by thought.

I have made no attempt to give all of the meanings of the term "necessity." Those which I have given seem to be the outstanding meanings, and possibly all other meanings can be derived from these. If some of the problems suggested at the beginning of this paper are not solved by such a discussion as this, they are at least thrown into their proper context.

A. CORNELIUS BENJAMIN.

UNIVERSITY OF ILLINOIS.

### BOOK REVIEWS

*Proceedings of the Aristotelian Society, 1926-1927.* New Series, Vol. XXVII. London: Williams & Norgate. Pp. 399.

The Aristotelian volume for last winter contains some fairly good material. But the reader is struck by the fact that in many of the



papers an excellent idea has largely gone to waste, owing in some cases to a failure to think it through, but more often owing to an inability to write simply, concretely, and effectively.

Of two articles by Professor C. Lloyd Morgan, the Presidential Address, though asking some questions concerning contrast of colors which it would be important for any theory of the status of mental data to consider, is much less definite than the second article, "A Concept of the Organism, Emergent and Resultant." In the latter he welcomes Whitehead's extension of the term "organism," and distinguishes an "emergent" from a simple causal "resultant." While this is a fairly clear restatement of his opinions, the author admits that much still remains to be done to elucidate this theory.

The article by Professor Wolf on Spinoza lays emphasis on the dynamic character of Spinoza's Substance, and criticizes the simple identification of Spinoza's use of the term "cause" with "deductive implication." Spinoza's geometrical illustrations probably do injustice to his intention, but it remains an open question whether, if we accept Professor Wolf's interpretation, we can avoid accusing Spinoza of simply confusing the static and dynamic, instead of organically fusing them. Again we need more elucidation.

Dr. Ivy Mackenzie's denial of conscious sensation to everything below man would be a striking thesis if it were a little better expressed. The same criticism applies to Professor de Burgh's rehabilitation of the "design" argument. And particularly should I have liked to see a more adequate development of Miss Oakeley's thesis that the past is the real, and all consciousness, even including the "specious present," gives direct knowledge only of the past. She indicates her relationship to Bergson's ideas, but her way of putting it has possibilities which she does not adequately exploit. Miss Wrinch's enthusiasm for the "spinning electron" theory of L. V. King does not seem as yet to be shared by most physicists. Mr. Anderson's paper is at times rather clever, as when he inquires whether the "elliptical penny" of several epistemologists is a datum or a construct.

In my opinion one paper in the present volume stands out easily above all the rest. That is the one by Mr. J. MacMurray, and is entitled "The Function of Experiment in Knowledge." Perhaps I am impressed with it beyond its merits because I came to it after having been engaged in looking over several new texts on elementary logic. Mr. MacMurray's paper is so obviously in accordance with part of the truth about scientific thinking, that it might almost pass for commonplace, if the writers of logic texts did not hide the truth from us, leading us off into a land of illusion. I hope I may be pardoned, therefore, if I quote a few passages. The similarity to Professor Dewey's opinions will be noticed at once.



"Science is a method of discovery in which overt practical activity plays an essential part." "Science is based on a double scepticism. It is sceptical of the validity both of pure thought and of sense-perception." "It is not merely logical fallacy of which [the scientist] is suspicious. He claims the right to maintain side by side two mutually exclusive theories of radiation, on the ground that each is experimentally verifiable in a particular region."

"The scientist is just as sceptical of observation as he is of logic." "He relies upon the bare use of his senses as little as possible, and balances observation against observation, and one observer against another." "Indeed, he is always extremely sceptical of any alleged fact which is in logical contradiction with his scientific theory." "Observations must be relevant, not merely relevant to the particular question in mind, but more especially to the stage which theory has reached in its continuous development." "A scientific 'fact' is always a fact in relation to theory, always a generalization."

Scientific observation is "deliberate observation, observation controlled by expectation based upon theory." "Scientific development rests primarily upon those experiments which turn out contrary to expectation. We might almost say that the scientist experiments, not to prove his hypothesis, but to prove it false." "It is thus the perfect weapon of a science whose basis is sceptical and whose aim is the unmasking of ungrounded belief."

"Is it possible [thus] to make ignorance the basis of knowledge, to build truth upon an unshakable scepticism?" "Science, it would seem, has accomplished the impossible." "By giving up the quest of certainty as an impossible task, it has succeeded in becoming the irresistible force which it undoubtedly is."

"Philosophy itself might become scientific." "Like science, philosophy would have to exchange conviction for development, cease to entertain the vain hope of certainty, and supplement its natural scepticism of fact with an equally solid scepticism of theory and speculation." "Could philosophy become experimental? It seems to me not impossible."

How far Professor Dewey would go with Mr. MacMurray in this article, I do not know, but it seems to me to express remarkably well some of the most valuable points in Professor Dewey's "Instrumentalism." In any case I think it notable for the way in which it stresses the double skepticism of science, the indifference with which science disregards everything not relevant to the present stage of development of the theory which happens to be on top at the moment, and the disregard of whether a theory is true or even self-consistent,



if only it is suggestive of new experiments. These things are true about science, and I do not find them mentioned in our logic texts.

HARRY T. COSTELLO.

TRINITY COLLEGE, HARTFORD.

*The Wrestle of Religion with Truth.* HENRY NELSON WIEMAN.  
New York: Macmillan Co. 1927. Pp. 256.

Names, as anybody exposed to the solicitations of advertisers knows, are treacherous things, treacherous and powerful. The object they suggest so often rouses an expectancy which the object they present sharply disappoints. *Rosy Face* can designate an eczematous skin. *Box of Happiness* can sour a disposition. Reading *The Wrestle of Religion with Truth*, you think at once of *The Conflict of Religion with Science*, *The Warfare of Science with Theology*, of John Draper and Andrew White and their careful exposition of the classic attitudes of religionists to new knowledge and new faiths. You expect to find under an analogous title an analogous document, bringing the record up to date, explaining it clarifying it. You find instead a special plea, by an advocate, for a view of religion which seems to me confused in logic and ungrounded in fact. Quite correctly, its author calls his view a philosophy of religion.

Once a Presbyterian minister by training and vocation, with the cachet of professional proficiency in philosophy in the shape of a Ph.D. from Harvard, author of a book on religious experience and scientific method, Mr. Wieman now professes the philosophy of religion in the divinity school of the University of Chicago. His *Wrestle* is, I take it, the philosophy that he professes. If I understand what he says—I feel far from sure—he believes that current religion, modernist as well as fundamentalist, being out of tune with the times, is in a terribly bad way. As science is the outstanding characteristic of the times, religion should attune itself to science. It can do so by adopting the “experimental” method of science in the enterprises of living and the logical technique of science in the definition and organization of religious “concepts.”

When, however, Mr. Wieman philosophizes about the actual procedure of science, he condemns it with the condemnation borrowed from the somewhat petulant fooling of Clarence Ayres about science as a false messiah. For precision, measurement, and control, which are the inwardness of experimental method in any field of research, Mr. Wieman exhibits the reverse of a strong liking. His strictures on mathematics and mathematical logic are as vigorous as they are uninformed; his references to aspects of current physical theory do not carry with them any great familiarity with its elements and their



implications; his uses of the word "religion" are such that no real religion need ever have existed to give them meaning. His "philosophy of religion," consequently, provides an apologetic for an abstraction drawn from no recognizable actual cult, an abstraction invented rather than discerned, inapplicable to any namable faith which is a going concern.

The argument of this philosophy runs somewhat as follows: Religion is the one and only method by which men can secure for themselves "goods of supreme value." This method is based upon suppositions which must be true, true in advance of the use of the method, if that is to be applied successfully. The subject-matter of the presuppositions is God, who is "a fact like a stone wall or a toothache," and consists of "that Behavior of the universe which has nurtured human life and which . . . preserves and increases to the maximum the total good of all human living where right adjustment is made." This definition is restated variously and redundantly throughout the book. Sometimes "that Something" is substituted for "that Behavior"; sometimes "order and structure of the universe"; sometimes merely "environment"; and again "most helpful activities of the environment." Sometimes the term is "ultimate cause," "present ultimate sustaining condition of human life" or "realm of unattained possibility." Always God is something we must "get right with," make "right adjustment" or "proper adjustment" to, if we desire the maximum security or "supreme good" that God alone can yield.

This adjustment, which is religious, involves a technique, which Mr. Wieman calls worship—"the only possible way" of organizing and mobilizing the total personality in the adjustment to the Something-God wherein successful living consists. Hence worship is made up of habits, as is prayer; and the habits which are worship are every and any habit that a person may acquire, but especially they are the habits of loafing, suspended judgment, honesty, definiteness, overcoming failure. All that is required of any habit is that it shall be fruitful and multiply. Such a habit brings you nearer to God, while, conversely, a sterile one takes you away from Him. For by your habits shall you know God. What you experience depends on your habits, not they on it; getting right with God is getting habits that determine your perception of him; changing your habits is changing yourself, and thus your world.

And religion enables us to make change better than anything else. It saves us from social wrong-doing, mental misery, impoverished life and worry, by directing the surplusage of our responses to "integration with the fulness of the world." It provides us with "the vision and the certainty" of God. These were attainments of



Buddha, Mohammed, Jesus; but most of all of Jesus; in Him "there shines more of the unexplored and mysterious goodness of this universe than in any other," and He is "hardly above the horizon," at that. Churches are the inevitable fellowships of those who by their habits see and are sure of God, whatever alias God may be known by.

Observed directly, and through the senses, in the religious experience, God's nature appears to be as plural and discrete as the individuals who see him, and yet one and homogeneous, since He is the "underlying condition" into which each mystic's spirit merges while he is seeing God. Essentially God is "underlying condition," "ultimate substance" which, I presume, the accidents composing the universe dissolve into and crystallize from. In the great tradition of philosophy this disarticulate homogeneity is called Matter, but that is another story. "Ultimate substance" involves the notions of "ultimate cause" and "supreme good"; . . . "To attain the supreme good we must get into right relations with the ultimate cause. He who gets right with the ultimate cause will have the supreme good—he who gets wrong with it, the supreme evil."

For a more precise description of this "ultimate cause" and "supreme good," Mr. Wieman, seeking the last word on the matter, draws upon the recent vaticinations of Mr. A. N. Whitehead. This distinguished logistician, having in the course of many years' partnership with Bertrand Russell invented with him a new method for philosophy and discovered a new branch of mathematics, is now in the autumn of his life working out by himself another vindication of that gigantic pathetic fallacy called idealism. Among his devices two stand out. One is a metaphysical use of the theory of relativity. In this mathematical physics, a most abstract and impersonal science, takes into account points-of-view and perspectives, which seem at first blush superlatively concrete and subjective. The other is the ungrounded dogma that relations are internal, a dogma as old as the Eleatics and as irrelevant to the growth and the methods of the sciences. If this dogma is valid, you can not know anything unless you know everything; you can not eat your dinner without consuming the universe; you can not quarrel with your landlord without quarreling with all creation, or suffer from a flea bite without implicating Jehovah. If this dogma is valid, science could not have happened nor history become.

Now, by operating upon the relativists' notion of perspectives with the metaphysicians' dogma that relations are internal, the separate and distinct "point-moments" of "space-time" are transformed into a homogeneous flow of God-knows-what. This flow is then named "the order of nature," "the creative process of nature." There are in it no places, no times, no things; but, like the matter



of Aristotle, it is a potentiality of them all. That they should become actual as the world which societies live in and sciences know requires that the flow shall be penetrated by another order of being—by the system of unchanging, abstract, eternal forms, like the principles of geometry and arithmetic and such, the elements of which likewise are internally related so that you can not have one, without the entire system. Hence it is the entire system which is constantly being incarnated in each item of space-time. A babe or a bishop, a crook or a college president, a mote in the sun or a moron in the seat of the mighty, each is a microcosm focusing in itself all of the macrocosm. Each is a “concretion” of the characterless flow with the determinate character of the entire world. Each is, moreover, like the Leibnitzian monads, a more or less explicit or implicit “concretion.” The degree of explicitness defines its “levels of prehension,” its station on the ladder of being, from the dimly prehensive electron to the brightly prehensive Messrs. Whitehead and Wieman.

But that form and flux should be brought together at all, is due to no virtue in them. The virtue accrues to them from “the principle of concretion.” It is this that compels their coming together. It is the persistent order of all being. It is God. Not concrete himself, he is the cause of concreteness in all things. That is, God is the dogma that relations *are* internal.

This latest frill in theology, arrived at by means of the up-to-the-decade concepts of current physics and up-to-the-century concepts of classical idealism, seems to me to be a sort of distorted Aristotelianism. It has the unstinted approval of Mr. Wieman. He thinks that it is “scientific” and he asserts that it satisfies the “religious tests” of correctly designating “ultimate cause” and “supreme good”; of disposing of the problem of evil (it accounts for evil as anti-concretion, separation, individuality; what the medievals called pride and faction in morals, *haecceitas* in metaphysics); and of validating the religious experience, since it defines the “ultimate substance.” He does not say whether it will enable him to foretell the future, or that it can. Nevertheless, he declares the test of truth to be predictability. He does not call this new theology error, although he argues that the reality of the world of subsistence—i.e., the world of Whitehead’s “principle of concretion” and system of forms, that compose the nature of the Whiteheadian God—is illusion and error. Not unmistakably either truth or error, the system yet meets Whitehead’s “scientific” tests and Wieman’s “religious” ones. At the same time Mr. Wieman declares that religion must hate error more and must care more for truth than either science or philosophy. For religion is passionately concerned to know the precise nature of



the "ultimate cause" so that it may attain the "supreme good." And in the persons of great religious leaders like Christ or Buddha or Confucius it does so, "experimentally." Their experimental method is summed up thus: they retire from the world, they meditate, they acquire insight, they return to the world to try out their acquired insight.

Such is the gospel according to Mr. Wieman. It characterizes itself in its own summing up, and that would be enough if it were not at the same time representative of a growing mode of ratiocination which protesting loudly that religion is in need of clear and distinct modern ideas, adds to the current obfuscation and obscurantism by befogging such clear and distinct ideas as it has. I have already mentioned how Mr. Wieman talks about *religion*, and meticulously fails to analyze any actual religion whatsoever. He spreads himself on *worship*, and resolutely refuses to mean by it anything that is usually meant. *Experimental* and its derivatives are his especial favorites; adjectives of final approval which he uses as his grandfather might have used *Christian*. Yet he repudiates the specific meaning of these words, as the highly disciplined technique of the sciences, and intends by them at best nothing more than *tentative*, which, since existence is a stretch we do of time, is what all life is, anti-religious as well as religious. But the use of *experimental* enables him to claim the credit of science while repudiating the characteristics which have won the credit. That is, it is the emotional tone, not the logical import of the expression, which carries its significance for him.

The same thing is true of "ultimate cause" and "supreme good" and the like. The sciences know of no supremacies or ultimates; any attempt to fix their character by an appeal to the changes and chances of religious history or to the observations and inferences of the natural sciences, would abolish them. They would show only arbitrary selections, principles that pass. Current physical science, for example, lays open to doubt the speculative dogma called *determinism*; Mr. Wieman exalts it as a very essential of science. Current science has no use for the hypothesis of substance. Mr. Wieman assures himself of an ultimate one by referring substance to the religious experience. Historical religions have meant various things by the word "God," but they all had at least this in common—that God was somehow providential and purposive, somehow a will or a heart or an intellect or all three; even deists like Voltaire saw him so; Mr. Wieman, on the contrary, draws all the emotional benefit of this use of the word "God," but is at pains not to mention whether his nature has any of the classical divine attributes or not. Historical religions—even so heterodox a religion as



Spinoza's—are all preoccupied with death and immortality; Mr. Wieman's silence on this subject is such that it fairly roars.

The practical and logical bearings of all this upon inherited institutions and doctrines are obvious. But in Mr. Wieman's thinking they do not follow. Religion may be non-specific, but Jesus is still the Most High; the religious experience may imply solitary worship, but the church is still necessary; science may be the only source of verifiable truth, but the Bible is the precious concentration "of these many centuries of worship and experimental living." One religion is no truer than another, but missionaries—of course, Christian ones—have a peculiar justification, as has "religious education" in the public schools. Life consists in adapting yourself to your environment, but adapting yourself to your environment is the same as "getting right with God."

What specifically is this God we must get right with? Mr. Wieman both refuses to say definitely and says as definitely as his understanding of Whitehead enables him to. Most of all, however, God is what is experienced in the religious experience—"ultimate substance," etc. On this point, Mr. Wieman does me the honor to devote a whole chapter to disagreeing with what I have reported on my own studies of the religious experience in my book, *Why Religion*. And I find myself unable to join issue with him precisely because his disagreement derives from arbitrarily assumed metaphysical assumptions, not from an empirical study of religious experiences, of their nature, conditions, contents, and consequences. Those assumptions lead him to attribute to me opinions that I do not hold—namely that religion is illusion to the religionist.

This, however, is an incident and to the present review irrelevant. What is not irrelevant is the obvious fact that a view of religion which sees it as preoccupied with ultimate substances, "supreme good" and the like, is a view which makes of religion a Laputan thing. It makes of "worship" and "getting right with God" an endeavor after assurance of the same kind as that of the sages of Laputa who were distilling sunbeams from cucumbers against the time when the living sun should grow cold. Such a view of religion is possible only when there is no clearness in the hearts of religionists; no articulation in their hopes. A clear heart brings good order into the most muddled head; a heart confused will cause the clearest head to stray.

H. M. KALLEN.

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## JOURNALS AND NEW BOOKS

BULLETIN DE LA SOCIÉTÉ FRANÇAISE DE PHILOSOPHIE. 27<sup>e</sup> Année, No. 1. L'axiomatique logique et le principe du tiers exclu: Thèse, *M. A. Reymond*; Discussion, *L. Brunschvicg*, *R. Lenoir*, *P. Lévy*.

PSYCHOLOGICAL REVIEW. Vol. 35, No. 3. The Absolute Zero in Intelligence Measurement: *L. L. Thurstone*. Intelligence as the Capacity for Variability or Versatility of Response: *A. S. Edwards*. The Theory of Factors, I: *S. C. Dodd*. The Inference of Mind: *D. K. Adams*. A Further Experimental Study of the Development of Behavior: *Leonard Carmichael*.

RIVISTA DI FILOSOFIA. Anno XIX, N. 2. (Roberto Ardigò—nel primo centenario della sua nascita, MDCCCXXVIII-MCMXXVIII.) Prefazione: *G. Tarozzi*. L'idealismo de Roberto Ardigò: *G. Marchesini*. Roberto Ardigò: *L. Credaro*. Il pensiero pedagogico di Robert Ardigò: *E. Galli*. Diritto e società nel pensiero di Roberto Ardigò: *A. Levi*. Rileggendo la "Morale dei Positivisti": *L. Li-mentani*. Il realismo di Roberto Ardigò: *R. Mondolfo*.

PSYCHOLOGICAL BULLETIN. Vol. 25, No. 4. Visual Sensations: A Review of the Literature for 1926 and 1927: *L. L. Sloan*. Facts and Theories of Audition: *C. A. Ruckmick*. Apparent Movement: *P. C. Squires*.

Archives de Philosophie, Vol. V, Cahier III. Bibliographie critique par *J. Abelé*, *J. de Blic*, *Ch. Burdo*, *P. Descogs*, *J.-R. Duron*, *A. Etcheverry*, *J. Mertens*, *P. Monnot*, *B. Romeyer*, *R. de Sinéty*, *J. Souilhé*. Paris: Gabriel Beauchesne. 1928. 323 pp.

Bogoslovsky, Boris B.: The Technique of Controversy. Principles of Dynamic Logic. (International Library of Psychology, Philosophy, and Scientific Method.) New York: Harcourt, Brace & Co. 1928. London: Kegan Paul, Trench, Trubner & Co., Ltd. xiii + 266 pp. \$4.00.

Cobb, Stanwood: The New Leaven. Progressive Education and Its Effect upon the Child and Society. New York: The John Day Co. 1928. 340 pp. \$2.50.

Durkheim, Émile: Le Socialisme. Sa définition—ses debuts. La doctrine Saint-Simonienne. Edité par *M. Mauss*. (Bibliothèque de Philosophie Contemporaine.) Paris: Félix Alcan. 1928. xi + 352 pp. 50 fres.

Leroy, Maxime: Fénelon. (Réformateurs Sociaux—Collection de Textes dirigée par *C. Bouglé*.) Paris: Félix Alcan. 1928. 115 pp. 12 fres.

Rignano, Eugenio: Problemi della Psiche. Bologna: Nicola Zanichelli. 1928. 212 pp. L 20.



## NOTES AND NEWS

In recognition of thirty-three years of distinguished service to psychology, a volume entitled *The Washburn Commemorative Volume* has been dedicated to Professor Margaret Floy Washburn, of Vassar College, by her colleagues. It contains a series of thirty-two studies and is published by the American Journal of Psychology, Cornell University. The Table of Contents is as follows:

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# THE JOURNAL OF PHILOSOPHY

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# THE JOURNAL OF PHILOSOPHY

## SOME DIFFICULTIES IN CURRENT VALUE THEORY

WITH the traditional difficulties arising in connection with theories of value or of good we are all familiar; and it is, of course, obvious that even at the present time there is occasionally disagreement among philosophers in regard to the proper solution of these stubborn puzzles. That we do have a solution seems, however, a matter of general agreement, even though no one solution is accepted by unanimous choice. Since I have no new difficulties to present, and since every philosopher seems in some way or another to have solved the old difficulties to his satisfaction, the only justification I can have for making my personal problems public is the hope that the unusual appearance of naïveté in a philosophical journal may be amusing.

To begin with, I assume that we all want to know how to choose among the possible actions that seem to be open; and if to choose rightly is to be moral, I suppose we might assume that we want to be moral. According to Professor Fite, "morality is the self-conscious living of life" or "to be moral is to know what you are doing" (*Moral Philosophy*, p. 3). Consequently, the problem seems to be, how does one proceed in order to know what he is doing. Such is the problem; but Professor Fite seems to regard this statement, not as a problem, but as the solution, since he goes on to say that the view that to be moral is to know what you are doing is a humanistic, as compared with an absolutistic or authoritarian, doctrine (*ibid.*, p. 5).

He tells us further that his view may be contrasted with the instrumental view; and in contrast to the view that thought is a means for action, the critical view looks for the realization of life in reflection itself (*ibid.*, p. 105). Since life is to be realized in reflection, the problem may perhaps be stated in another way by asking what constitutes reflection. If reflection is to be distinguished from a bare awareness we may guess that reflection involves a task, the selection of the valid or the valuable and the rejection of the invalid or valueless, and the finding and consideration of reasons for and against. Presumably reflection attempts to reach a goal; and though its goal may never be reached, though reflection may be potentially infinite, does it not, unless it falls into error, cut a path in the direction of its



goal? And may we not ask Professor Fite to show us the path, or at least to give us sailing orders?

That reflection does involve a duality Professor Fite seems to admit when he says that "there must be an objectively real quality in any genuine morality, even though we refuse to abide by any objective 'criterion'" (*ibid.*, p. 177). To assist us in keeping the correct path Professor Fite gives us the advice that we be alive to the questions to which our position is open and be prepared to meet them. If we know the objections that may be raised and how to meet them, then our reflection is objective (*ibid.*, pp. 178 ff.). Whether or not this puts the cart before the horse, it does bring out the problem. In order to foresee objections, we must be able to know what objections are relevant; and in order to meet objections we must, presumably, be able to give reasons for our position. How, then, in the matter of conduct or of choice in regard to conduct are we to distinguish between what is relevant and what is not; and what reasons can we give for our choices? Presumably if we know what reasons we can give to meet objections, we shall know what reasons to use as basis for our choice. Are there any reasons, and if there are, what are some of them?

Professor Fite tells us to be prepared to meet objections, but does not tell us how. Perhaps we may be justified in deserting him to look elsewhere. According to Professor Dewey, "possession and enjoyment of goods passes insensibly and inevitably into appraisal. . . . Enjoyment ceases to be a datum and becomes a problem" (*Experience and Nature*, p. 398). Since our problem is to find out how to appraise, this sounds promising. On the same page, however, we find the statement that "value as such, even things having value, can not in their immediate existence be reflected upon; they either are or are not; are or are not enjoyed" (*ibid.*, p. 398). Since our justification of our choices would presumably be in terms of values, it seems that our choice, after all, must be based, not upon reflection, but simply upon recognition. "Values are values, things immediately having certain intrinsic qualities. Of them as values there is, accordingly, nothing to be said; they are what they are" (*ibid.*, p. 396). It appears, however, that though we can say nothing about values themselves, we can investigate "their generative conditions and the consequences to which they give rise" (*id.*); and "the business of moral theory is not at all with consummations and goods as such, but with discovery of the conditions and consequences of their appearance" (*ibid.*, p. 433).

Our problem seems very much simplified. Professor Dewey assures us that if we meet up with any values we shall infallibly recognize them, since they are what they are; and we may feel confident



doubtless, that if we find any we may discover, by applying the experimental or statistical methods used in the sciences, the conditions and consequences of their appearance. Where, then, shall we find values? Professor Dewey tells us that "whenever the activities of the constituent parts of an organized pattern of activity are of such a nature as to conduce to the perpetuation of the patterned activity, there exists the basis of sensitivity. . . . Responses are not merely selective, but are discriminatory, in behalf of some results rather than others. . . . Thus with organization, bias becomes interest, and satisfaction a good or value and not a mere satiation of wants or repletion of deficiencies" (*ibid.*, p. 256). Apparently in order to find values we must find organized activity such that the parts of the activity help to keep the activity going. The operation of a self-stoking furnace equipped with a thermostat seems to fit the requirements exactly. At any rate, I suspect Professor Dewey of having used value in a meaning that I did not have in mind; because it does not seem to me that there is any reason why I should spend any time trying to arrange conditions so as to generate organized activities with parts which will perpetuate the activities.

Perhaps, however, since Professor Dewey says that values either are or are not, either are or are not enjoyed, he means that sometimes we enjoy things and sometimes we do not, and that when we do, our problem is simply to hold on to the things that we do enjoy. If he means this I hardly see why he should confuse us by talking of values. Moreover, since we enjoy things and events, and not values, presumably we have no need of moral theory, since the various sciences attempt to find the consequences and generative conditions of things and events. At least, however, Professor Dewey furnishes us a reason to advance in answer to objections to our choices. We can say, "I enjoy this, and I feel sure that I understand its consequences and causes."

Why should we be concerned with consequences? The reason would be apparently that the consequences might involve negative enjoyment or loss of other enjoyments. If this be so, how shall we choose between enjoyments? Are they all alike and of the same size? In connection with this point it seems relevant to quote a comment made by Professor Dewey in Dewey and Tufts' *Ethics*, not to show that Professor Dewey has changed his views (since that is immaterial), but because the comment seems both relevant and valid. "There is no way of estimating amounts of future satisfaction, the relative intensity and weight of future possible pain and pleasure experiences, except upon the basis of present tendencies, the habitual aims and interests, of the person. The only way to estimate the relative amount . . . of a future 'lot' of pleasure or



pain, is by seeing how agreeable to *present* disposition are certain anticipated consequences, themselves not pleasures or pains at all" (Dewey and Tufts, *Ethics*, p. 276). Shall we say, then, Find out what the consequences will be and then let your disposition take care of the decision! Or since taking account of consequences may itself be a matter of disposition, shall we say simply, let our disposition and tendencies take care of both the foreseeing and the deciding?

In a human being a tendency is presumably an interest. According to its subtitle, Professor Perry's *General Theory of Value* construes the meaning and basic principles of value in terms of interest. Since our search for value seems to have led us to interests, perhaps Professor Perry can tell us what to do with our interests.

We are looking for value. In the first place, according to Professor Perry, we must look for generic value before we attempt to say what comparative value is. That is, before we define better and worse we must find what better and worse have in common. By analogy we might say that before we define longer and shorter we should have to define length. It might seem, on the contrary, that to begin with we should discover the better and the worse, the longer and the shorter, before we attempt to define value and length; but perhaps we may let this question pass and follow where Professor Perry leads. Professor Perry himself raises the next difficulty. Unless we already know what value means and therefore do not need to investigate, we must presumably collect instances of value and see what they have in common. But how can we collect and select instances if we do not have the category to use as a principle of selection? Since this same logical difficulty arises in connection with all other investigations, we need not settle it; but it is worth keeping in mind to remind us that perhaps Professor Perry will superimpose value on the instances rather than find the meaning of value in them.

Since we do not know what value is and have consequently no instances of it, we may start by considering what relation it might have to some other factor. At random we may select interest as the other factor; and it seems apparent that value may have no important relation to interest, it may be the qualified object of interest, it may be the object of qualified interest, or it may be any object of any interest. For good and sufficient reasons Professor Perry rejects the first three possibilities. It is not possible here to go into the reasons for such rejection, except for the consideration of one point which seems to be important. According to Professor Perry, we must reject the view that values are indefinable or simple qualities or relations which we find in objects. The reason for rejecting this view is that, while value might be an empirical quality



like yellow, we do not as a matter of fact find such an empirical quality; and the more we scrutinize our value experiences the more clearly is value dissociated from objects and located in the attitudes of the subject (cf., *General Theory of Value*, pp. 28 ff.). This argument certainly seems conclusive, but suppose we see where it leads. If we may make correct judgments about value, then presumably the value dealt with must in some sense belong to the object about whose value we are judging. Professor Perry seems to admit this, in that to defend himself from the charge of relativism he insists that though we define value as relative to interest, we do not define value as exclusively relative to the present interest of the judge (*ibid.*, p. 130). If we may correctly ascribe value to something other than the present interest of the judge, then presumably we are finding value, not in the attitude of the person judging, but in an empirical object. The object to which value belongs may indeed be a certain relation between an interest and its object; but one suspects that the chief reason for asserting this last proposition is that when one speaks of interest one feels that he is avoiding the difficulty raised by Professor Perry in regard to whether we do find value in objects. Perhaps we need not stop to analyze the question of whether or not value is indefinable. Whether or not it is indefinable, Professor Perry's contention holds, that empirically it seems doubtful whether we actually do find such a thing as value, at least with sufficient unanimity to give us confidence in the finding. Shall we conclude, then, that since we can not locate value in the object value must lie in interest? It seems that it would be more reasonable to conclude that value is a meaningless word which we have for some reason continued to use.

Suppose, however, that we do agree that we can locate value, and that value, as Professor Perry contends, may be defined in terms of interest. Will this help us to choose among the alternatives presented at any given time? According to Professor Perry we may define value by saying that " $x$  is valuable is equivalent to interest is taken in  $x$ " (*ibid.*, p. 166). This is the definition of generic value, but according to Professor Perry "if one object is better than another it must be better in respect of the same condition that renders it good" and "it must also be interest which confers the amount of the value" (*ibid.*, p. 599). Since being valuable is identical with being the object of interest, we may drop as unnecessary the terms "value" and "valuable" and speak simply of objects of interest.

Our first task will be, doubtless, to say what we mean by objects of interest. Combining two or three of Professor Perry's statements and altering his words as little as possible, we get this definition. An object is the object of interest when it arouses anticipatory re-



sponses which coincide with the unfulfilled phases of the general "set" of the organism (*cf.*, *op. cit.*, pp. 183, 209, 313).

We may notice that an interest may be correct or incorrect in that the anticipatory responses may or may not anticipate what actually arrives; but this has nothing to do with magnitude of the interest (*ibid.*, p. 614). Interest, however, may be measured in three ways. We may say that the intensity of an interest is the "ratio of the elements which are acting under the control of the interest, to the totality of the elements of the organism" (*ibid.*, p. 630). However, all fully aroused interests are of equal intensity. Though some interests become fully aroused more easily than others, they are more intense only when they are aroused (*ibid.*, pp. 632-633). In addition to being more or less intense, an interest may exercise preference among the objects which are suitable to it. Such preference, however, is limited to an ordering of the objects of one interest (*ibid.*, pp. 633 ff.). Where objects are equal in respect to the order by preference by the interests concerned, then the object of more intense interests is the object of more interest (*ibid.*, p. 642). Intensity makes possible the comparison of the several phases of the same interest in the same object, and preference makes possible the comparison of the several objects of the same interest (*ibid.*, p. 658). There is, however, no way of comparing the strength of two interests unless the two interests are related as part and whole. "To compare two 'co-exclusive' interests or aggregates of interests it would be necessary to establish some unit which could be transposed from the one to the other, and which would have some inherent magnitude of extent that remained unaltered in the process. How this is possible or conceivable in the case of interests, does not appear" (*ibid.*, p. 646). When, however, an object is the object of one interest, but not of a second interest, whereas a second object is the object of both interests, then we can say that the second object is the object of more interest. Or, using the definition of interest, we may say that when an object causes anticipatory responses which are in accord with the unfulfilled phases of a governing set and another object causes the same anticipatory responses and in addition another set of anticipatory responses which are in accord with the unfulfilled phases of another governing set, then the second object causes more anticipatory responses which are in accord with the unfulfilled phases of governing propensities than does the first.

These seem to be the more important statements to be made about interests and their objects. In making these statements Professor Perry talks of "better" and "value," but obviously we have not left out anything in omitting these terms since they are equivalent to "object of interest" and "object of more interest."



What conclusions may we draw? I hardly see that it is necessary to draw any. Governing sets will doubtless govern unless something else interferes; and it is doubtless true that some objects will cause more anticipatory responses than others. And since at last we have gotten rid of the troublesome term "value" we may go on describing anticipatory responses as long as they are objects which cause in us anticipatory responses which coincide with our general sets.

Professor Perry, however, draws some conclusions that are surprising. He says, for instance, that "a person may be criticized as having succeeded or failed in that achievement of a harmonious personality which is in principle better than a disordered and conflicting aggregate of interests" (*ibid.*, p. 668). Of course, we must remember that "better" means simply "object of more interest." The word "criticize," however, is surprising. Why should we criticize a man who has fewer interests than he might otherwise have had?

Again Professor Perry discusses William James' supposition that we were offered a utopia on the condition that one lonely soul should be tortured on the far-off edge of things, and contends that the judgment that the good of the many does not balance the evil of the one is justified by the consideration that the interests of the one and the interests of the many are incommensurable (*ibid.*, pp. 670 ff.). He adds that we find a solution only when we go out to the lonely sufferer and bring him in. "Justify" and "bring him in" are strange words to use when we are merely discussing how many interests are involved. So far as I can see we are back where we started. "The unexamined life is not fit for human living," but have we examined life when we have enumerated the objects which cause anticipatory responses? Perhaps the result of our examination is, rather, that we are not justified in using the term "justify" and that we ought not to use the term "ought."

CHARNER M. PERRY.

THE UNIVERSITY OF TEXAS.

## THE ESTHETIC OF LEO STEIN<sup>1</sup>

WHEN the history of modern painting is written, it will be incomplete unless Leo Stein is given a chapter to himself, or at least shares a long one with Roger Fry. Those of us in America who grew conscious of modern art during and after the famous Armory Show found that consciousness awakened for the most part by his various articles in the *New Republic*, which almost alone among the papers written on the subject seemed clear and intelligible.

<sup>1</sup> A discussion of *The A-B-C of Æsthetics*, N. Y., 1927.



It is not too great an exaggeration to say that his rôle has been at least that of Huxley to Darwinism, for although he is not a painter himself, he has made modern painting reasonable and furnished its admirers with a vocabulary for discussing it.

Yet we have waited for fifteen years or more for a coherent presentation of his esthetics and, as most people do not read the back numbers of magazines, it was not until the recent publication of his *A-B-C of Æsthetics* that one knew exactly what this "authority" in painting found in the pictures he was observing.

When one reads the classical treatises on the subject, one finds that they sin in one or more of the following ways. Their authors, like Kant and Hegel, had presumably never seen any works of art to speak of, or, like Schopenhauer, were biased by some strange metaphysical theory into the pattern of which they twisted their observations, or, like Lipps and Freud, had some psychological discovery in terms of which they interpreted everything else. What is obviously required in order to be an esthetician is a direct acquaintance with works of art, a freedom from psychological and philosophic prejudice, and sufficient training in psychological analysis to be aware of what one is observing. These qualities are preëminently Mr. Stein's. His association with works of art, no one will deny. His one philosophic bias is an admiration for William James, of whom, however, he is not a "disciple." His training in psychological analysis is evident to anyone who ever talked to him or read his reviews of books on psychiatry. But what is an especially important characteristic is that since he is not a professional philosopher, his writings have a freshness of attack and a sincerity which are almost unique, coupled with a vocabulary which is largely his own. One is confident that what he has discovered, he has discovered for himself and has not repeated ideas clipped from other men's books.

*The A-B-C of Æsthetics* is not only a discussion of what the esthetic experience is; it is also a discussion of epistemology. As a matter of fact, the esthetic experience turns out to be a species of cognition.

Cognition deals in the main with two kinds of objects, scientific objects (*not* in Mr. Whitehead's sense of the term) and esthetic objects. Scientific knowledge is always assertive; its object is propositional. Esthetic knowledge is non-assertive, non-propositional; it is awareness of terms. The terms may be as complex as you choose, but in esthetic cognition they are unified, not in some transcendent sense, but perceptually. They form one perception.

"Let any one look at anything that lies before him on the table," says Mr. Stein (p. 75 f.), "or is anywhere in the room, or outside



the window. 'Let him have it clear in mind that he is to prevent his attention from becoming inventorial. Let him, that is, look at the things before him, no matter how numerous, as a single object and without making a list. Let him persist in doing this for a while without allowing his mind to wander, or to become hypnotised. To get this result he must let his eyes move freely without strain, passing from one object to another in order to keep them together, not to separate them. If he succeeds in doing this, he will find what is before him to be a picture.'

In contrast with this, science becomes the art of inferring the relations between things. Evidently much of its labor will be directed to the inferring of relations which may be discovered not to subsist between real things at all, for the scientist is only secondarily interested in the application or pragmatic verification of his reasoning. (Actual scientists, to be sure, do both inferring and discovering, but that is because "pure types" do not exist in this world.) Discovery is the complement of science and is the work of esthetic cognition. Thus esthetics in its purest form will be utterly without inferential activity. Whereas science will give us "comprehensive diagrams," esthetics will give us "concrete objects." An esthetic object, however, comes to exist only if the interest leads to a certain fixation of it. The scientific man or practical discoverer does not usually pause at this point and the esthetic moment is for him merely transitional. "The ultimate abstraction made by science from things, is the atom in its absolute sense. The ultimate abstraction made from things by esthetics is the symbol" (p. 81).

Since Mr. Stein's terminology is not usual to epistemological discussion, let me restate part of the matter in more familiar language.

The world is made up of things—whether these are physical or mental does not concern Mr. Stein nor us. As we know these things they have (a) a relationship to other things, which is most obviously found in practice; they are instruments, guides, references; they point to something not themselves. This is, of course, the feature that James and the instrumentalists have insisted upon. The thing as thus known is a sign of something else. To develop or explicate or interpret the "meanings" of these signs, is the work of science and scientific knowledge is knowledge of the thing as a sign. Such knowledge is triadic, involving not only the object and the knower, but the scheme of reference into which it is to be fitted.

But things are (b) sense-data, pure objects of intuition, perceptual patterns. They are thus signs whose meaning is devitalized. The sign thus perceived is not devoid of meaning, but its meaning is internal to it. "The symbol in esthetics is not a label, but a sample" (p. 90).

Behind this distinction lies what Mr. Stein calls "knowledge by



coördinates" (p. 97). Knowledge by coördinates consists of knowledge directly of an object as that  $x$  which is before me localized and identified by and through its relation to something else. Thus any descriptive judgment is the statement of the relation of the object to something else. To say, "Whales are mammals," is obviously to relate whales to a class which is not identical with whales. This will always be true—except, it would seem, in propositions of identity. But identity, says Mr. Stein (p. 249), "is nothing more than the possibility of substitution in a given context. For example, if a man is very hungry, any kind of food is the same for him as any other. He makes no distinction except its capacity to satisfy hunger. If he is only moderately hungry he will eat one thing with relish and another thing indifferently. The identity in the context of a famishing state, does not hold for a condition of lessened desire. The same sort of thing can be applied to propositions or situations of all degrees of abstractness." This considers, to be sure, only the "psychology" of identity and means that if two things serve a given purpose equally well, they are identical. I suppose Mr. Stein's radical empiricism would prevent his discussing ontological identity or his granting the question any meaning. We shall not pursue the matter here. To resume the discussion, even in propositions of identity, there is knowledge by coördinates. Coördinate  $x$  is drawn through this-object-before-me, coördinate  $y$  through the-purpose-before-me.

In the case of esthetic knowledge, where are the two coördinates? One evidently is drawn through the object immediately before one, the other through the self (p. 99), "and the motive is *to use the self as an object of cognitive experience*. People to no small extent appreciate themselves, and in esthetic experience they find their selves projected, and available to observation. The grounds of acceptance or rejection are personal grounds, for the esthetic object exists only by virtue of the personal relation." This involves self-knowledge, but to know the self means again to draw the proper coördinate. Since the self is a social product, the coördinate proper to knowing it will be drawn through that point at which the individual cuts across society. But that point of intersection is the individual's knowing of external things crossed by other people's knowing him. It is a fusion of our various feeling—not yet ours—into a whole which is at least an object for other people. When we become aware of that object, we are self-conscious.

Mr. Stein does not mean to imply that the self as object is a stable and static thing. He understands the fluidity of its outline and the general cloudiness of its detail. These are due to subjective differences in our associates and to our lack of detachment from self-



admiration and similar attitudes. Still we achieve a relative stability through education—not the education received in schools, however—and hence can, if we will, know ourselves as others know us.

When the coördinate is drawn through the self to the esthetic object, the object takes on or can take on some of the characters of the self. With reference to a chair "I can say, 'This chair is comfortable,' or I can say, 'Now I am comfortable'" (p. 105). The former of these remarks is a tendency towards the esthetic unison, the latter towards sentimentalism. It is thus that pictures and other esthetic objects are endowed with traits—such as beauty, joyousness, gloominess, and the like—which could not possibly belong to canvas, linseed oil, and ground pigments. In other words we project outward what used to be called "subjective states," because we do not differentiate the various elements present in the amorphous conglomerate mass of feelings, perceptions, ideas, memories, which make up any total experience. But the projection of subjective states is not essential and varies among people. Some people are more interested in themselves than in the world and translate the world in terms of themselves; others are more interested in the world than in themselves. Their response to esthetic objects will depend on that.

The question that naturally arises at this point is why people differ in these two directions. If the self is the intersection of the individual and the community, the answer will be found in the sharpness of the intersection. What does one find at that point? One finds a diffusion of feelings. "Some feelings are well known, and some are not. The most pervasive and the best known are the feelings of *me*, and of *you*, and of *you-with-me*, and of *you-against-me*. These are the most commonly employed of all the selective screens in the world, and they are employed with the greatest intensity of interest" (p. 110 f.). Variations in the intensity of these feelings may be due to any number of maladjustments, not only between the individual and the community, but within the individual himself. But such maladjustments come about at times through the failure to direct feelings upon the proper perceptions. (But what causes that?<sup>2</sup>) Art, however, gives one a perception proper to the feeling, or, to use Mr. Stein's words, "is the sample expression of the qualitative character of the feeling" (p. 116). In that sense the picture is a symbol. And, being a symbol, it is bound to be qualitatively determined by the feeling which it objectifies and hence when compared with "real" objects—i.e., objects dealt with for non-personal ends—will be distorted. The distortion is a making of them congru-

<sup>2</sup> Mr. Stein writes me that that is caused by "identifications" and will be discussed in his next book, to be called, *Others—Do They Exist?*



ent with the appropriate feelings. Sometimes it is visual, sometimes it is other than visual. In painters like Matisse, in whom—at least in his *fauve* period—it proved such a shock to many people, distortion is merely the selection and combination of certain things to satisfy their feelings for plenitude and rhythm, but, after all, if one had a feeling for an inventorial exactness, there is nothing in Mr. Stein's esthetics which would forbid the satisfying of such a feeling.

It is clear that these remarks of Mr. Stein's do not apply to the whole of a work of art, for the simple reason that no work of art is purely esthetic. The purely esthetic—like the purely scientific—need no more be expected to occur than a chemically pure element or a perfect circle. Things are more or less esthetic. I shall not here state the characters of the ideally esthetic object, since I have already quoted at length, but shall note that one of the conclusions is that only the observer knows whether an object is esthetic or not. For every self is individual and only the individual can tell whether the object before him is the symbol that he understands. But one can learn to see esthetically—that is, learn to see objects through the self as a coördinate—and Mr. Stein describes the process at length. What this means in practice is that the business of critics is largely done away with, that is, of critics as determiners of beauty and ugliness. For it would seem as if standards of esthetic value were to become individualized as functions of the personal needs of the observer. Not only would the notion that there is one "law of beauty" for all works of art go by the board, but also the notion that one work of art must always mean the same thing to the same person. It would be possible, under Mr. Stein's theory, for a picture to acquire and lose its beauty—like human beings, though not entirely by the same process.

It is perhaps this last consequence which makes Mr. Stein so much more "modern" than most estheticians. He has definitely sounded the knell of absolutism in esthetics and not only said that there is no such thing as absolute beauty—which Stendhal said a hundred years ago—but he has shown why. But what is still more interesting is that he has injected into esthetic cognition feelings, memories, and all the aura of perception—which is one of the benefits of instrumentalism—and refused to consider the esthetic object as an impersonal entity directly revealed to the gaze of whoever wishes to look upon it. That has, as everyone knows, been done in epistemology to a certain extent, but, probably because of the influence of behaviorism, its full effect has never been realized. What Mr. Stein suggests is that the process which he has outlined as esthetic cognition is really the process of all knowing of objects and that the only difference between a work of art and a work of nature



—as objects of immediate knowledge—is that one is made deliberately by human beings for the expression of certain feelings, whereas the other is discovered to be such an expression already made.

GEORGE BOAS.

THE JOHNS HOPKINS UNIVERSITY.

## PROFESSOR LOVEJOY'S CARUS LECTURES

THE Carus Lectures got away to a great start; and there were few if any of those who heard them who were not convinced that Professor Lovejoy had presented a clear, profound, and original analysis, not only of the epistemological problem itself, but of the situations in experience which generate it and of certain outstanding theories put forward to solve it.

In the first of the three addresses, the lecturer called attention to the fact that the most significant philosophical discussions of the last twenty-five years, at least in America and England, had been concerned in general with the theory of knowledge and in particular with various attempts to escape from that dualism, epistemological and psycho-physical, which, though not explicitly formulated until the time of Descartes, had nevertheless functioned implicitly from the beginning of civilization as the normal attitude of the normal man.

In the contemporary revolt against this traditional dualism G. E. Moore and William James won the first skirmishes. Moore's reduction of consciousness to a mere "diaphanous medium" of awareness and James's even more radical reduction of it to a mere relation or context resulted in the conception of "pan-objectivism" or the doctrine that all the contents of experience are objective. This doctrine, whether interpreted by British neo-realists in terms of Moore's non-creative awareness or by American behaviorists in terms of a physical organism responding physically to its environment, is committed to a denial of both psycho-physical and epistemological dualism. For it denies, first, that the objects of nature are of two kinds, mental and material, and it denies, second, that the contents of experience are of two kinds, subjective and objective.

The remainder of the first lecture was devoted to setting forth the ineradicable differences both in intrinsic nature and in extrinsic behavior of physical things on the one hand, and of ideas on the other, with the conclusion that after making full allowance for Descartes' exaggeration of these differences, they remain sufficiently grave to explain and justify the dualist's contention that reality



consists of two kinds of elements, neither of which is reducible to the other.

In the second lecture, Professor Lovejoy proceeded to an exposition and criticism of "Objective Relativism." He attempted to show that the first or extreme form of pan-objectivism had failed and had been abandoned by its proponents. It had been found impossible to fit together in a single spatio-temporal system the welter of veridical, illusory, and hallucinatory objects that figure as the contents of our various experience-systems. All the places available in ordinary physical space are preëmpted for occupancy by the real objects, electrons or what not, which scientists infer from sense-data. In the clean and orderly space of Newtonian physics there is no room for the objects of dreams and fancies. These latter must be given a new location in a limbo of their own.

Confronted by this defeat, and threatened with a counter-revolutionary return of the old Cartesian minds as the only conceivable habitats for the disorderly rabble of sense-data, the Objective Relativists took a new tack, and revised the conception of space itself so as to make *locus* a variable, multiple, and triadic affair instead of something simple and fixed. Where an object really *is*, is reinterpreted to mean where it is with reference to this or that *context*. Even in the older space, the direction and degree of a body's motion was determined relatively to a context and could be different and even opposite in sense without compromising its identity. Why not extend this relativity of motion and apply it to locus and date and thus provide within a single self-consistent and non-bifurcated system of nature for the totality of sensory appearances?

It was to the exposition and criticism of the several forms of this second and more sophisticated phase of Objective Relativism that Professor Lovejoy devoted most of his time in the second and third of his lectures. Kemp-Smith, Russell, and Whitehead each have their own variant of this theme, and to each of these anti-dualistic epistemologies the lecturer paid his respects with characteristic courtesy and vigor.

In each case the upshot of the criticism was the demonstration that the anti-bifurcationists were tainted with the very heresy against which they inveighed. Not only were Russell's perspectives cut off from one another and from the public space as Cartesian souls in a Cartesian world, but even Whitehead, arch-inquisitor and contemner of those who bifurcate, was shown, by an analysis as dialectically relentless as it was affectionately respectful, to be himself guilty of being a bifurcator. For no matter in what way the objective relativists may choose to describe the relation of the contents of direct experience to the orderly system of scientific refer-



ents; and no matter how piously they may repeat the word "physical" as a characterization of the hordes of percepts, the truth remains—and sooner or later will appear—that the world of sense-data is not physical in any but a Pickwickian sense, and that the two worlds (of data and their referents) are marked off from each other by such contrasts of relational structure and behavior that their identification can only be made on pain of irretrievable confusion.

One of the most effective of the lecturer's arguments was his demonstration that putting the sense-data in relation to a brain rather than a mind, in no way mitigates the essentially subjective status from which they suffer and by which they stand in contrast to the properly physical order. The indictment of subjectivism can not be answered by the customary protestation on the part of the relativist that he does not believe in a soul or even in a mind, and that he interprets conscious experience purely in terms of a physical organism reacting physically to its physical environment. For no matter how mechanistic or materialistic his explanation of the perceptual process, if as the result of that process two distinct types of objects—things and ideas—make their appearance their duality has to be reckoned with.

The one criticism of these remarkable lectures which at this time I should like to offer relates to the lecturer's abuse of the human head as the locus of the human mind. Whether the mind be conceived scholastically as a substantive entity or positivistically as a bundle or stream of feelings and actions, the evidence points to the head as its habitat. When we can not see the whereabouts of a thing such as a charge or current of electricity, we locate it in the place from which its effects proceed. Stated in another way we locate an invisible thing or process in the same place as the visible thing with which it enjoys a maximum of co-variance. Now the mind and the brain possess this maximum co-variance, nor is there anything in the world except the brain with which the mind varies directly and immediately. In general, an event that happens nowhere is an event that doesn't happen. Mental events such as feelings, volitions, etc., do happen; and why should they not, like other events, be accorded a locus; and why should that locus not be chosen by the same methods that govern the choice of any other of the events that are not externally observable? The lecturer appealed to the fact that mental events do not *appear* as within the brain; but nothing is commoner than for things in a picture or in a mirror to appear in what is not their true locus. If the place where a thing appears is in conflict with the place where it acts and suffers, we unhesitatingly accord priority to the latter. Where *is*, is where *does*. In dealing with other people we do not hesitate to locate their



minds in their bodies; and the golden rule of epistemology is to do to our own minds what we do to the minds of our neighbors. The epistemological problem is the problem of how, while imprisoned in our organisms, we are yet able to establish a direct though epiphenomenally ineffective *rapport* with dates and places other than our own,—in the lecturer's happy phrase, "How can we go abroad while staying at home?" Why does he not realize that in this case "home" is where the *head* is, and that to solve the problem of cognition, we must discover what manner of event it is that, though occurring now and here in my skull, can yet reveal or present another event that is outside my skull and in a time that has passed?

Apart from this one objection, it seemed to the present writer that the lectures left little to be desired in the way of clarity and conclusiveness. That "man is an epistemological animal" was pretty convincingly demonstrated; and one can not but hope that those who would laugh off the epistemological problem as "artificial," may be brought by Professor Lovejoy's discussion to a realization that problems can not be disposed of by either laughter or neglect. In the days of scientific warfare we do not expect to make fall the walls of any Jericho by marching around and emitting derisive shouts. Whoever would succeed in an affair in which Russell and Whitehead have failed to convince, will have to abandon *ridicule*, and get down to *work*—the same kind of careful and difficult work that Lovejoy has done in his Carus Lectures.

W. P. MONTAGUE.

COLUMBIA UNIVERSITY.

### BOOK REVIEWS

*Science: The False Messiah.* C. E. AYERS. Boston: Bobbs-Merrill Co. 1927. 296 pp.

*Science: the False Messiah* is an announcement of heresy against the prevailing faith in science as the savior of mankind. Unlike earlier heresies of a similar kind, it seems certain to get a hearing, for this thing has not been done in a corner. Mr. Ayres knows that he is a heretic, and the style of his writing, which is vigorous, colloquial, and self-conscious, enforces the point. It must be added that clearness is sometimes sacrificed in the interests of provocation.

Part of the heresy which Mr. Ayres states is not new: there have been numerous defenders of the thesis that science has usurped the field of values and made claims which in the nature of the case it can not fulfill. Bishop Berkeley is a familiar illustration. It is true that he objected to scientific materialism on the ground that it



could not be empirically established, but back of the objection was a fundamental interest in the fate of values. Yet Berkeley's pertinent criticism of scientific procedure was so closely bound up in presentation with his theological metaphysics that it was seriously obscured, and a similar fate has overtaken many subsequent analyses of the function of science.

Critics of science have too frequently had a theological ax to grind, and the fact has obscured the validity of their defense of values. We may suspect that in fighting the battles of theology they have often been actuated by a desire to save values which seemed threatened by the advance of science. Such dubious champions of the good have rendered every champion suspect. We have needed a re-evaluation of science as a human endeavor and a definition of its field. Mr. Ayres has given both.

There is a double difficulty in summarizing Mr. Ayres' argument, for it runs a complex course and is generously illustrated with concrete and vivid details, yet a statement of the central positions may be made, perhaps, without fundamental injustice to the book.

Mr. Ayres believes that the modern faith in science is strictly analogous to the older religious faiths which it has partially superseded, for, to the true believer, science is both a system of dogma and a power for social salvation. The truths of science constitute a modern folk-lore, like all folk-lore in that it is based upon authority, deals with mysteries, and produces miracles.

Yet, according to Mr. Ayres' analysis, the truths of "pure" science do not touch the central problems of life. They can not become the intellectual background of the common man, because they deal with facts remote from the realm of ordinary living and are stated in mathematical terms intelligible only to a few. Science has an effective place in modern life, only because of its association with machine technique, so that our faith in the new folk-lore is at bottom a faith in machines. "Modern science as distinguished from other bodies of folk-lore treating the sun and the stars, man and the elements, springs from just one source: that is, from instruments of precision. That is, from machines" (p. 57).

Science did not produce the machine age, as is commonly supposed; on the contrary, machine technology developed in its own fashion and science came with it. Technical innovations, Mr. Ayres points out, are readily transferred from one group to another because their immediate usefulness is obvious and because their social consequences are unforeseen. Machines have thus insinuated themselves until they dominate our civilization, and even yet their conquest is not complete. The social effects of machine technology are now becoming evident in the vaunted freedom of modern civilization,



which is a sign of the breaking up of the old social order by the industrial revolution.

The fact that modern science has developed as an adjunct of machine technology has been overlooked, Mr. Ayres believes, with the result that the conflict between religion and science has been mistakenly regarded as a clash between rival sets of ideas. Both theologians and scientists have employed themselves, therefore, in the attempt to find a means of intellectual adjustment between the two. Mr. Ayres reviews the various solutions offered, from the early dualism involved in the phrase, rendering unto Caesar, down to the most recent attempts to make religion scientific.

He finds the central episode in the reconciliation of theology and science in the field of philosophy. Modern metaphysics, with its attempt to "penetrate behind the beyond," can be judged only as representing the effort of the modern intellect to square theology with science. The result is either a dualism, like that of Kant, in which spiritual truths are relegated to a separate realm where they are safe and ineffectual, or a monism, a philosophy of the Absolute, a meaningless abstraction in which all opposites are reconciled. Either saves theology from all the possible attacks of science, but neither offers a God for worship or salvation. "Metaphysics is the sarcophagus of the spiritual life. Within it our ancient and cherished folk-lore lies embalmed. The art is perfect. Its product is a mummy, swathed in rich symbolic trappings, but quite dead" (p. 174).

In a chapter called "Science Betrays Religion," Mr. Ayres pays his respects to those contemporary scientists who feel called upon to stress the incompleteness of science, and to suggest that in religion there is still "room for faith in the territory of the unknown."

"When, therefore, we are told that 'science is not complete,' that 'there is still room for faith,' we feel that the suggestion is disingenuous, to say the least. Incomplete science no doubt is, but not in such a fashion as to lead any one to go behind it to an antique and alien ceremonial. On the contrary, the major premise of science is its undisputed jurisdiction over all our actions. . . . The foundation of all mechanics is the axiom that every bullet finds its mark, and the corollary that bullet holes are made only by bullets. In this technology, what lever, pray, does deity manipulate? Obviously, none whatever; nor do the new 'discoveries' require any re-assignment of the levers" (p. 200).

And, finally, Mr. Ayres deals with the common supposition that we may ultimately control society through science. In answer to that hope, he points out with much energy that the laws of science



are "descriptions, never prescriptions." Furthermore, "the problems of civilization . . . are questions of what we want to achieve. Science has devised no technique of solving them" (p. 232). We shall have to select the goals toward which we would move without the help of science, and those goals will be determined by our habitual desires. Science can furnish only the means, and it can not always be depended upon even for that. Nor can we hope that we may escape our habitual predispositions by developing the scientific temper, the habit of intelligence, for, since habits are essential to social organization, the experimental attitude must be ruled out, except for the few.

We may look forward, then, Mr. Ayres believes, to a world ruled by scientists of an executive turn of mind, opposed to innovation, interested in maintaining the *status quo*.

Only a limited evaluation of so comprehensive an argument can be made, unless a second book be written, for the author has touched most of the aspects of contemporary belief and custom. Mr. Ayres' classification of modern science as folk-lore brings out vividly the obvious fact that the popular attitude toward science is uncritical, a fact clear enough after the point is once made. The classification is enlightening. It is enlightening, also, to have so clear a statement, even in polemical terms, that much of modern metaphysics has been an interested attempt to justify an accepted folk-lore. It is easy to share Mr. Ayres' scorn for the lack of ingenuousness in the apologists among the scientists. And it is refreshing to find a book which states so clearly the thesis that the determination of values can not be left wholly to science.

By way of making these points, however, Mr. Ayres seems to become involved in an additional criticism of science which is irrelevant to the main issue. There are ambiguities here which definitely play into the hands of the obscurantists whom the author dislikes so heartily, for there is, entangled in his valid criticism of science as a human endeavor, a criticism of it as a description of natural events, and this later seems neither clear, nor, to borrow Mr. Ayres' word, quite ingenuous.

Mr. Ayres appears to say, at least to suggest, that there is not much choice from the standpoint of accuracy between the kind of description offered by science and that found in the older folk-lore. One kind of verification is about as good as another.

This suggestion runs all through the discussion of science as folk-lore. There is a point in classifying science in that way, since it is like the old folk-lore in so far as it is believed upon authority and trusted for salvation. But is it like them in all other ways except in actual content? Mr. Ayres certainly suggests that it is. We



must not, he insists, object to calling science folk-lore on the ground that it is proved. For the old folk-lore also can be proved, in its own appropriate way. The pangs of childbirth prove the legend of creation, with Jehovah's dictum, In sorrow thou shalt bring forth children. But, we may object, the fact may be accounted for by some other legend, that of evolution, for example. Mr. Ayres' answer is that the same objection may be brought equally well against evolution; there are other explanations which will do as well or better. What, then, is the conclusion? "No fact," he says, "ever obliges anyone to invent a theory, or to believe one and not another. People believe theories and legends and all sorts of folk-lore for other reasons" (p. 25). And the chief reason, he adds, is familiarity.

But, surely, the fact that an isolated phenomenon may be accounted for equally well by either of two theories does not mean that the theories are of equal accuracy. It may be true that no single fact, taken out of context, makes it necessary to prefer one theory to another, but it is certainly true that one fact may invalidate a theory and a group of facts usually obliges us to believe one theory and not another. That is the crux of verification.

In the same paragraph in which he suggests that verifications are all of an equal value, Mr. Ayres says, "The facts are what they are; and rather more so: there are always more facts which do not fit the theories, and about which we do not hear so much—until a new theory has been invented into which those erring facts do fit" (p. 25). That is, he recognizes that there is a difference in degrees of comprehensiveness in different theories. After all, isn't this what the scientist means when he says that the theory of evolution is more accurate than the legend of creation? May we not say, quite consistently, that the new folk-lore is more nearly proved than the old?

The confusing suggestion that one theory is as good as another comes out again when Mr. Ayres says that the axioms of mathematics are wholly arbitrary, and after a reference to Einstein, concludes "there is no reason whatever for preferring one definition to another, except that it is what we are accustomed to" (p. 29). This is true enough, of course, if we are talking about pure mathematics. But it seems fair to assume that Mr. Ayres means something more than this, for he refers to the use of non-Euclidean geometry in Einsteinian physics, and his discussion is part of an argument designed to prove that the axioms of any folk-lore are arbitrary. If he intends to say that the selection of a mathematical system for use in formulating laws of physical objects is wholly arbitrary, his very reference to Einstein disproves his point. Non-Euclidean geometry is use for the formulation of physical laws, because, in some areas, at least, the behavior of things demands it. And certainly, here, it can not be said that familiarity is a determining factor.



Mr. Ayres might agree to all of this, but the effect of his writing is to suggest that even in its own field the statements of science are of doubtful validity. Now, while the concepts of modern science need examination, there is nothing to warrant us in supposing that the fundamental scientific techniques will be superseded by radically different methods. Mr. Ayres has insisted that there is nothing in the incompleteness of science which justifies a return to an antique and alien ceremonial. We might add that there is nothing in the inaccuracy of science which justifies a return to the kinds of proof which have supported our religious folk-lore.

The distinction between science as a description of facts and science as human activity is important. Criticism of one need not involve the other, and to confuse the two, as Mr. Ayres seems to do, is fatal to understanding. There is at present a much-needed criticism of science in its first aspect, an examination of the concepts of modern science with a view to greater accuracy and the elimination of the extraneous metaphysical load which many of those concepts bear. The work of Bertrand Russell, Whitehead, and Bridgman show the complexity of that task.

The criticism of science as human activity is a fair field for the humanist, and it is here that Mr. Ayres' book is valuable. Where it encroaches on the other field it contributes to confusion rather than enlightenment.

MARY SHAW KUYPERS.

UNIVERSITY OF MINNESOTA.

*The Social Basis of Consciousness.* TRIGANT BURROW. New York: Harcourt, Brace and Co., Inc. London: Kegan Paul, Trench, Trubner & Co., Ltd. 1927. Pp. xviii + 256.

The reader who has the hardihood to grapple with a difficult style, mystifying terminology, and speculative premises will find in this book an interesting extension of Freudian psychology. After sixteen years devoted to psychoanalytic work, Dr. Burrow has come to view the neurosis as a social rather than as an individual phenomenon. He maintains that what is commonly accepted as normal indicates a disease-process no less than do the reactions presented by the individual neurosis; and that the unwitting psychoanalyst who accepts as normal the sexual attitudes of a conventional and organized society stands quite as much in need of being psychoanalyzed as does his patient.

Normality is neurotic, according to Burrow. It has its repressions and substitutions, its secret symbols and equivocations. The origin of the disease does not lie in sexual repressions, as the Freudians contend, but in the notion of "right" and "wrong" as im-



posed by a conventionalized society. An enforced superstition of "good" and "bad" is foisted upon the child by self-seeking adults whose real motive is to further their own ends. By means of the notion of right and wrong, which is essentially a pretense, the child is tricked into complicity with the prevalent code about him. Soon the child learns to adopt this self-same reaction of pretense, and to interpret morality from the point of view of personal advantage. Thus, according to Burrow, is born a sense of separateness and self-reference which is fundamentally at odds with the natural organic and affective basis of life.

Burrow believes that man is primarily social and secondarily individual. For him the "original, inherent, organic life that is the underlying essence of two individuals is common and identical. However different spatially, traditionally, and characterologically, there is between them the essential bond of an inherent continuity, of an organic confluence." The external and spatial characteristics that demarcate individuals from one another are purely incidental; fundamentally there exists no separateness, no discrimination between them. Self-consciousness, the awareness of self as against other selves, and the ego-centric striving which this awareness entails, are, in Burrow's opinion, the result of an artificial moral code.

He contends that the child in his earliest infancy is equipped to live spontaneously and without awareness of ulterior motives. But with command and reproof, reflected in the pretense of "right" and "wrong," an element of ulterior self-seeking is artificially introduced. Owing to interdiction and the rebuff of spontaneous impulse the child's real affective life is replaced by an "artificial cosmogeny whose outline is limited to only two components, namely, the self plus the immediate interest to the self as derived from other selves." In this manner is obtruded "self-consciousness, self-interest, or that separation from its basic continuum that is incidental to the interruption of the organism's essential life." This condition Burrow regards as nothing other than a "dissociation" of consciousness, and life in our present thralldom to the ideal of "normality" is throughout a dissociation.

Burrow maintains that because of this tampering with native impulse life comes to be lived according to a picture—the picture of society's conventional notion of normality—rather than according to its own spontaneous demands. Normality makes neurotics of us all. The individual is called upon to worship this picture, to subscribe to the idolatry of self. As a "normal" person he is moved by a pathological urge of ulterior self-seeking. He must helplessly strive to enhance his own individuality, and thereby he serves only to alienate himself further from the natural "unitary mode" of



life. Some people, it is true, rebel at this conduct, and these are summarily diagnosed as "neurotic." Burrow thinks it is these neurotics who really show signs of health. Mankind as a whole goes on bowing before the false god of normality, and therefore is more neurotic than the individual patient.

Even sex is in the toils of a bogus "normality," according to Burrow. In society at large the natural sex impulse has been displaced by "sexuality." Because of the spurious image of "good" and "bad" the "organic and inherent impulse of mating" is seen wholly from the point of view of personal self-interest. Free and natural expression is marred by this "secret element of personal advantage and disadvantage."

Accordingly, for Burrow, sexuality is really auto-sexuality, and the common distinction between hetero- and homosexuality is purely fictitious. As long as the individual aims only at temporary self-appeasement the adjustment known as heterosexuality still remains merely an instrument for the gratification of auto-centric desires. As opposed to sexuality, with its self-reflexive and therefore auto-erotic and ego-sexual expression, stands what Burrow regards as the natural sex impulse. This is a "spontaneous, effortless, and non-personal conjugation of the organismic poles comprising male and female." It is the "permanent self-realization of a mutual co-ordination." It follows that the psychoanalyst who tries to solve sexual perplexities by steering his patient (or shall we say victim?) into the beaten paths of normality is himself the prey to "unconscious sexuality."

Now, since mankind is so ridden by a "social unconscious," and its vaunted normality is but a neurosis, wherein lies the cure? On this point the book could be more explicit, but we are led to infer the answer. The militant psychoanalyst is faced with a delicate problem. He must free the patient from his sense of "separativeness" and isolation; relieve him of his burden of self-conscious, competitive striving; tear down the sinister picture of normality; and put the patient at one with life in its organic, spontaneous, affective reality. The patient must be taught, in short, to live "from within outward." To effect this end Burrow suggests a method of group analysis, but on the details of this method he is rather vague. It would seem also that a perfect cure must entail the re-education of all mankind. For what would it avail the patient to live "from within outward" when all the rest of the world lives "from without inward"?

This review will not attempt to give a criticism of Burrow's major hypothesis. The reader can take it or leave it as he sees fit. No doubt the student of child psychology will object that infant be-



havior is self-centered long before its "unitary mode" of communistic impulse has been debauched by parental moral sermons. It might well be argued that the notion of right and wrong has arisen as the result of human self-seeking, rather than being its cause. Others will inquire what is meant by the primary "organic and affective confluence" which underlies the humanity of us all, but let these go off to ponder by themselves over the "organic unity of function that pertains biologically to the infant psyche." The hard-headed experimentalist in psychology (let him beware of this book) will ask in vain for empirical evidence, for exact definition of terms, for an intelligibly formulated working hypothesis. Those whose religion is the "survival of the fittest" will protest that Burrow's program goes counter to a fundamental law of nature. Perhaps the most strenuous objections will come from the psychoanalysts themselves; for the view presented in this book does not lend itself well to commercial exploitation.

The volume as a whole contains many features which can only bewilder the reader. One looks in vain for systematic summary statements of the author's essential point of view. The reader frequently finds himself in a position analogous to that of wrestling with an eel. Before he has succeeded in laying hold of the point at issue the exposition has moved on to another phase. Consider, for example, this *italicised* summation: "By normality I mean the consensus comprising the personal absolute vested in the unconscious of the collective mind determining the social average." A statement of this kind is somewhat disconcerting, to say the least.

Another difficulty lies in the lack of definition of terms. Much of the Freudian vocabulary is taken over bodily with no attempt to clear its mysteries. "Consciousness" and "unconsciousness" flit from one apparent meaning to another with utter abandon. There is a "social unconscious" as well as an "individual unconscious"; there is a "collective unconscious" and an "amalgamated unconscious." We are told that "unconsciousness is diversity of outer aspect in contrast with the concentration of consciousness and personality in its inner confluence." In an "organismic" view, "differentiation is unconsciousness" and at the same time the "repercussion of consciousness is the essence of man's unconsciousness." It is "unconsciousness within unconsciousness . . . unconsciousness *unconscious* that is the baffling complicity within our self-dissociation." One has an "unconscious mate." One achieves self-duplication in his "unconsciously begotten offspring." In marriage "two unconscious elements have been merged into one unconscious entity." And, as a final stroke, "it is the secrecy of unconsciousness that is the backbone of unconsciousness." One is tempted to re-



mark that the Freudian unconscious, like Santa Claus and the stork that brings such nice babies, is so convenient and yet so hard to define!

Nor should one try to probe the inscrutable "preconscious." For are we not told that it "pertains biologically to the infant psyche"; that it is the "matrix of mental life"; that behind man lie the "fictitious decoys of a phantastic and immemorial preconscious," and that animals have preserved this "preconscious mode" of life? Is it not clear that "monotheism is a sublimation of the preconscious mode" just as dualistic theism is a "sublimation of an irreconcilable unconscious mode"? Could anything be more simple? Perhaps the reader is curious also to know what, after all, in the "social basis of consciousness." Let him turn to Burrow's book and find, after prolonged throes of careful study, that the answer remains a solemn mystery.

In this bewilderment one should not lose sight of the author's major thesis. The writer's mystifying phraseology is somewhat compensated by a consistent adherence to his central theme. The book speaks throughout with a modesty and sincerity that at once invite the reader's sympathy, and it is singularly free from the muck-raking that characterizes the usual run of Freudian literature. The author's arraignment of present-day psychoanalytic method, his indictment of the self-conscious and ego-centric striving that pervades our social life, and his contention that normality is a neurosis born of moral pretense and sham will no doubt provoke the interest of a large circle of readers.

ARTHUR JERSILD.

COLUMBIA UNIVERSITY.

*Pour le Centenaire du Romantisme.* ERNEST SEILLIÈRE. Paris: Edouard Champion. 1927. Pp. 311.

Under the guise of philosophical and literary criticism Ernest Seillière in his *Pour le Centenaire du Romantisme* has indulged in his favorite sport of heresy hunting. Some idea of his ever-increasing gusto for the chase may be had from the fact that this is his forty-first work—not counting the uncollected articles—purporting to be on the history of Romanticism, and which in reality is a polemic against it. Almost half of these works have been published since 1919.

Most of the chapters consist of reviews previously printed in the *Journal des Débats*. Owing to the amount and haste of his production, the style shows signs of slipshod thinking. Here is an example, in which he is criticising the writing in a poem by Sainte-Beuve: "... si le caractère de Jean y est dessiné de façon subtile, ou



même difficilement intelligible—comme le poète en convient lui-même—il offre des nuances psychologiques fort délicates et subtiles.” “... if Jean’s character is drawn in a subtle manner, or even in one that is difficult to understand at times—as the poet himself admits—it gives fine psychological shadings that are delicate and subtle.” “The reader is not certain whether the words, “even in one that is difficult to understand” are meant as a compliment or not; but he is certain that if a thing is subtle, it is subtle.

One of the chief errors of the book is the unwarranted extension of the meaning of the term “Romanticism,” until it includes everything distasteful to the author; another is the confusion of lyricism with dogma. Only thus does the huntsman succeed in finding sufficient quarry.<sup>1</sup>

One soon discovers that Baron Seillière’s ideas are warped by the following biases: clericalism, nationalism, and the social and ethical prejudices of his class, that of the ultra-traditionalists. Let us briefly examine his methods and beliefs. Common terms such as mysticism, psychology, and imperialism are used continually with a private meaning. Many philosophers, particularly since Kant, imagine that originality consists in inventing a vocabulary. Seillière refers to his own special language as his “vocabulaire théorique.” Once his thoughts have been translated into everyday speech, they are found to be neither very new nor very sound.

The basis of his system is “l’impérialisme,” by which he means the desire for domination. Owing to “original sin” man, according to Seillière, is fundamentally bad, selfish, and unreasonable. In his struggle for power man becomes a mystic and turns to the supernatural for an ally. All varieties of mysticism are evil save that of the Church, for it alone, he says, is founded on reason and experience.

The best chapter in the book is one in which he helps lay the ghosts of spiritualism. It is a restatement of Maeterlinck. Another interesting chapter is the one on Treitschke, the leading exponent of “Gott mit uns.” Seillière, who also mingles religion with nationalism, is at least consistent in his admiration for him.

When one considers that the urge behind the writings of Seillière and his group is religious, moralistic, and political, one is puzzled to see why so much of their effort is spent in trying to destroy the literary reputations of the Romanticists; all the more since Rousseau, Chateaubriand, Hugo, Balzac, and others whom they bitterly attack, were defenders of religion. The reason becomes obvious when one

<sup>1</sup> Cf., Barbara Matulka, *A Defence of Romanticism*, in the “series of publications of the Institut des Etudes Françaises of Columbia University. In print.



reflects that they were either unorthodox or became backsliders, renegades.

From the very outset the politics and religion of the Romanticists were looked upon askance. In vain Hugo declared in the preface to his first book of poems: "The history of mankind shows no poetry save that which has been conceived and judged from the pinnacle of monarchistic and religious beliefs." Count Frayssinous, Bishop of Hermopolis and Academician, saw danger for the Church and State in the war waged against the principle of authority, even literary authority; and he pointed out the identity of interests of Catholicism and the Monarchy with Neo-classicism, and condemned the Romanticists for their "bad taste and evil doctrines."

It is amusing to see whom Seillière admires, after seeing him take pot shots at many of the best modern French writers. He characterizes as a "beautiful novel" "a beautiful narrative," *La Maison*, by Henri Bordeaux, who is a sort of Mrs. Humphry Ward of contemporary French fiction. Mrs. Ward herself is cited as a faithful depicter of modern English society and a true prophet of its future, while Thomas Hardy is a bad author, and "an enemy of society."

Once more "La Bataille Romantique" is being waged by Seillière and his allies, Charles Maurras and Léon Daudet of the Clerical and Royalist paper, *L'Action Française*. As far as literature is concerned the battle was fought and won a century ago by the freshness and vigor of much of the work of the Romanticists over the still-born writings of the Neo-classicists. The importance of *Pour le Centenaire* lies in its being the expression of the reactions of a small but noisy minority in French political thought.

IRVING BROWN.

COLUMBIA UNIVERSITY.

## JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW. Vol. XXXVII, 3. Harry Norman Gardiner: *C. M. Bakewell*. The Significance of Scholasticism: *H. C. Longwell*. How Hegel Came to America: *J. H. Muirhead*. The Problem of the "Situation": *Clifford Barrett*. Discussion—The Interpretation of Similarity. A Reply to Professor Pepper: *R. M. Blake*. That a Theory of Universals Must be Supported by Argument: *S. C. Pepper*. Final Comment: *R. M. Blake*.

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#### NOTES AND NEWS

The publication, *Comparative Psychology Monographs*, has been taken over by the Johns Hopkins Press, and will be issued hereafter under the managing editorship of Knight Dunlap. The Board of Editors consists of J. E. Anderson for child psychology; H. A. Carr for the lower vertebrates; W. S. Hunter for general human problems; A. V. Kidder for racial studies; S. O. Mast for invertebrates; and R. M. Yerkes for the primates. Manuscripts offered will be referred to the appropriate editor immediately, and will be considered for publication only after being approved by him.



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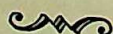
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# THE JOURNAL OF PHILOSOPHY

## A NOTE ON METHOD IN THE PSYCHOLOGY OF RELIGION

THE modern period in the study of religion may be said to begin with Tylor's venture, sixty years ago, to describe the essence of primitive religion in terms of a universal animism. Primitive man, he believed, attributes sentience and purpose to every object in the natural world. The sunlight is beneficent, it is worshipped as benevolent; the storm may wreak irrevocable damage, it must be propitiated with prayer and sacrifice. To the intellectualism of nineteenth-century psychology (which Tylor himself shared) this came as something of a shock; for why should primitive man be so irrational? Could he not see that the sun was but fire; did he not know that a storm was but wind and water?

The fact that Tylor's contribution was actually new—and epoch making—shows how effectively the phenomena of religion had until his day eluded the grasp of psychological interpretation. Psychological studies of religion had indeed been made, many of them quite ingenious. The trouble was not with students of religion, but with psychology itself. Psychology did not possess the methods and concepts which were needed to make religious phenomena intelligible. It had in fact but little to contribute to any social science. Its methods and results had begun to be greatly affected by experimental physiology, and some valuable data on sensation and reaction-time had been obtained; but knowledge of the affective and volitional life had been confined to rather superficial observations on nineteenth-century Europeans of superior intelligence.

And no great progress in the psychology of religion has come, I believe, from the mere extension and refinement of methods used early in the nineteenth century. On the contrary, whatever progress has been made has resulted, for the most part, from the development of *other* branches of psychology—branches that can scarcely be said to have existed until the last twenty years of the century. I refer to abnormal psychology, child psychology, and animal psychology. By this I do not mean to suggest that religion is abnormal, or childish, or brutish; but that psychology has at last awakened (largely through Darwin's efforts) to the very elementary fact that all protoplasm has something in common, and that this common element plays its supreme part in the psychology of religion as in



every other activity of living things. I should like to sketch a few of the specific repercussions of these other branches of psychology upon the psychology of religion.

First, as regards animism itself. Animism seemed at first to be a peculiar property of primitive minds. But as soon as children began to be taken seriously as subjects of psychological observation, it became apparent that animism is not the exception, but the rule in the child's early responses to his world. Not indeed that the child reasons out the existence of a soul. Rather, the objects of his world are first of all neither personal nor impersonal, but as he begins to have a glimmering notion of personality in the two-legged objects about him, he naturally carries over some of the same responses to other objects. I am not thinking merely of the intense personal reality which a teddy-bear or even a rag doll may have (I had a tin dog when I was five years old which to me was fully a person); I am thinking rather of the attribution of personal benevolence or malevolence to objects which please or hurt. The ball bounces too hard against a little knee; it must be punished. This vague childish type of animism persists in every person who revengefully kicks a door in which his thumb has been squashed. It is not far from this to the reasoned animism of primitive man—for primitive man does, of course, philosophize. The point I would urge here is that the animism of primitive man seems bizarre until for one moment one looks at a child, and then, thinking of the child, looks at one's own reactions. The mystery vanishes.

Another profoundly important problem in the psychology of religion is the interpretation of shamanism, and of various related states of "possession." Such conditions, a hundred years ago, were regarded either as supernatural or as fraudulent—or written down as something queer and given up as a bad job. The understanding of these conditions was forced upon psychology by progress in neurology in the latter part of the nineteenth century. The study of suggestion, which may be said to date even from Mesmer's arrival in Paris in 1778, began, a little past the middle of the nineteenth century, to receive serious attention from physicians. In the hands of French neurologists, hypnotic technique was developed, and many of the phenomena of hypnotism and hysteria were before long seen to be in part the manifestation of suggestibility. The study of trance mediumship in connection with spiritualistic communications was soon shown by French, and immediately thereafter by British and American, students to be of profound importance for the psychology of religion. When persons in a state of dissociation spoke or wrote material purporting to come from the dead, it was shown in several celebrated instances that the messages



were the outcome of suggestion, and even in some cases that the name of the communicator had been imposed in the same way upon the trance consciousness. The explanation of a host of shamanistic performances, in which gods and spirits purport to speak through the shaman, immediately became simple; and the line of distinction between sincere and deliberately "faked" performances was seen to be very hard to establish.

Hysteria was found, however, to be but one of several abnormalities of personality which have profoundly influenced religion. Epilepsy, long known to have been a stigmatum of certain great spiritual leaders, was found to have a genuine and profound relation to some of the more familiar phases of religious experience. First, the epileptic attack, preceded by its momentary "aura" or warning, and manifesting itself in violent convulsions, with the loss of consciousness, immediately suggests that a spirit has entered the body. The fact that the attack nearly always does some physical injury to the patient encourages the belief that the spirit is malevolent. On the other hand, the attack may take, so to speak, a substitute form; instead of losing consciousness, the patient suffers what is called an "epileptic equivalent." In these conditions he is just as truly "out of his mind" as in the former; he becomes dissociated, is confused, and often undergoes a tremendous emotional upheaval. Sometimes he commits in a "furor state" inhuman crimes; sometimes, on the contrary, the epileptic passes through a deep, genuine, and profoundly impressive religious experience. This not only sets its mark upon the character of the patient, but may, if the people near by are religiously minded, convince them that a prophet is in truth before them. The association of epilepsy with certain of the more dramatic aspects of religion is therefore not in the least accidental. It must also be remembered that there are a number of more or less pathological states lying between hysteria and epilepsy, sharing with these the general tendency to manifest dissociation, or the control of the body by agencies which are not understood by the patient nor controlled by him. Medical science is not yet in a position to classify these conditions clearly, and the borderline of what constitutes true epilepsy is a matter of dispute. But it suffices to note the commonplaceness of the states of altered personality in which automatisms occur. Motor automatisms—involuntary *acts*—are almost as important for shamanism as are sensory automatisms—visions, voices, and the like, which spring from a dissociated corner of the patient's own mind.

Nearly as important, perhaps, as such contributions of child psychology and abnormal psychology, are to be reckoned the studies in the learning-process among animals, and the resulting recognition



that many processes previously explained in terms of intellectualism are in reality extremely simple, non-rational, quasi-automatic. In Spencer's hands the associationist theory had been applied to the phenomena of religion, and the movement still survives in Frazer's reduction of the psychology of magic to Plato's elementary associative laws of contiguity and similarity. The assumption was made that primitive man fears, let us say, the finger-nail parings of a chief because the finger-nails remind him, by contiguity, of the chief of whom he is already afraid. The vicious intellectualism of such a conception masks not only the real simplicity of primitive thinking, but the analogous simplicity of most of our own loves and fears. The concept of the conditioned response, introduced into psychology at the beginning of the present century, has proved to be in many cases a less misleading (as well as a much simpler) instrument of interpretation. If a child cries when it sees a bottle of medicine approaching, it is scarcely permissible to assume that it remembers the taste (i.e., revives the experience of tasting) as associationism would assume; all the known facts are covered when we note that the sight and taste together have been previously followed by crying, while now the sight alone suffices.

Ames and others have shown that this kind of learning, which presupposes nothing in the way of intellectual function, plays a highly important rôle in magic, ceremonial, and tabu. By just such processes a friend of mine saw a tabu in process of development in his eighteen-months-old daughter. She was fond of having him bring her slippers and put them on her. One day, for fun, he brought his own slippers instead. She drew back in fear. He then placed his own slippers and hers on the floor near by. She approached her own, but would not now touch them; nor would she touch them thereafter for some time, even when the larger ones had been taken away. Here is a tabu involving no clear "association by contiguity." The whole process seems to be a very rudimentary conditioned response. (Some contemporary psychologists would reduce all association to the conditioned response formula; this goes beyond present evidence.)

These illustrations are offered as typical of the ways in which child psychology, abnormal psychology, and animal psychology have illuminated the problems of religion. These are but a few cases out of hundreds through which the "naturalistic" interpretation of religion has made its steady advances. So much, in fact, has been clarified by the study of childish and primitive thinking—and of the sub-intellectual character of much of our own religious thinking—that psychologists have tended to turn away from the study of religion in the belief that its main problems have been



solved and that there are more important games to play. I am inclined to think that there is a serious oversight here; in fact, that the most important problems for the psychology of religion (wholly aside, of course, from the philosophy of religion) remain almost entirely unexamined.

I refer to phenomena which may perhaps be said to distinguish the deeply religious man from the conventionally religious man,—the feelings and attitudes which make religion the absorbing passion of a considerable number of men and women in each generation. The somewhat nebulous term “mysticism” was early appropriated by psychologists of religion to describe this inner core of religious experience, and it is fair to say that the last twenty-five years have more than justified James’s judgment that mysticism is the cardinal problem of religious psychology. It is not my purpose to offer any new definition of mysticism or to defend any of the old ones, but merely to point to a concrete and common type of mystic experience and to ask what progress has been made in interpreting this and kindred experiences.

Let us undertake the explanation of the experience of personal contact with the Divine; the conviction that one is in immediate contact with God, or indeed is identified with Him. Various influences which contribute to a *belief* in God must, of course, first be emphasized. Next must be noted the love towards the father, which is a part of the experience of children in most civilizations; and together with this love, the joy in seeking refuge in his arms, the sense of relaxation in the love of the protector. Third comes the will to believe, the craving for a heavenly Father like the earthly father, but more loving, more just, and more unfailing. Then follows the interaction of these factors, all of which are clearly at work in most children, and remain a part of the tissue of adult life unless shattered by intellectual doubts or by the adoption of a different set of values.

In the sense in which the still very inexact science of psychology may be said to “explain” phenomena, the interaction of these three factors seems to me to explain the more obvious features of the mystic experience of absorption in the Divine. But just what have we explained? The term “absorption in the Divine” is a very crude description of an experience which, whatever else it may be, is really exceedingly complicated. The “great mystics” (for the most part persons who not only have had profound mystic experiences, but have *described* the experiences in such a way as to impress their fragment—or better, a certain layer—of their experience could be put into words at all. Surely the feeling of resting in the arms of



an infinitely loving Father can be put into words. Yes, it is all that, says the mystic, but it is infinitely more. *What more* is it?

The early years of the analytical study of mysticism were dominated by the desire of one group of psychologists to explain such states naturalistically, and of a protesting minority (headed by James) to justify the claim of such experiences to unique authority for the individual. In so far as the latter group have directly opposed the habit of naturalistic thinking, they have lost ground. Not only has naturalism consolidated its conquests in all branches of psychology in recent years, but specifically, the psychology of religion has been to such a degree clarified and reduced to order by such "naturalists" as Leuba and Coe, that psychologists have turned to the school that could explain the most. The victory of the naturalistic group has, however, obscured this cardinal problem in the psychology of religion. Most of us calmly remark that such states are undoubtedly to be explained naturalistically (whatever that may mean). But where else in psychology would the repetition of such a phrase exempt us from the work of really studying a problem? The truth seems to be that we have not yet done much serious work in analyzing these deeply moving un verbalized responses. For to say that these experiences can not be put into words is to emphasize the very point upon which the mystics and the naturalistic psychologists agree.

Now most psychologists are content to write these un verbalized responses down as mere raw emotions, and to let them go at that; they are simple affective responses. Others call them organic sensations. We are, of course, confronted here with one aspect of the whole thorny problem of the relation of sensory to affective processes (some psychologists believing that these two groups of processes are fundamentally distinct, others regarding the distinction as arbitrary). But presumably these experiences are dependent for the most part on the responses of unstriped muscles and glands—the muscles of the arterial walls (hence blood pressure) being of special importance. Sensations from striped muscles probably play a fairly important part also. Now these same components appear to play a dominant part in a great variety of "attitudes,"—attitudes of everyday contact with things and persons; this has long been recognized. Is it not then rather extraordinary that mystic experience should be regarded as something aside, something morbid, something to be scorned and dismissed? Is it not obvious from the assumptions of contemporary physiology and psychology that nearly all the responses of early childhood are necessarily mystical; that a very large number of these mystical (i.e., un verbalized visceral and kinesthetic) attitudes remain throughout life, coloring and giving a special vitality



to nearly everything in adult experience? To be sure, these attitudes notoriously masquerade as sources of clear knowledge—they may distort not only the thinking of the religionist, but that of the statesman, the philosopher, and even the barrister (for is not the very conception of “the law” and of property which “belongs” to an individual supported by a thoroughly mystical background?). On the other hand, is not each man’s system of values, his fundamental credo and adjustment to life, thoroughly and inevitably mystical? Psychology has, we noted, emancipated itself from intellectualism. Everywhere we see instrumental as well as theoretical studies of emotion, together with tests of non-intellectual traits. Is it not somewhat strange that the very matrix of non-intellectual life, the substantial mysticism of everyday existence, out of which our more explicit emotions emerge, should itself remain almost entirely untouched?

Religious mysticism presents one great point of advantage for study as compared with other mystical experiences. It frequently attains an intensity which makes its colors stand out vividly for description and analysis. And religion has been in whole or in part the source of many of the profoundest insights which man has had into the world. Again I am not speaking of rational or coherent or intellectually defensible insights (for the problem of the defensibility of the mystic approach seems to me not to be in any sense a psychological question); but such experiences do take a profound grip upon many a life, and, because those who have such experiences are often artists in the deepest sense, they have introduced us to a world sweet to touch and to love, a world of terrible beauty and overwhelming majesty.

But all religious experiences suffer the great disadvantage, psychologically speaking, that they are seldom accessible to really intensive and accurate observation. Leuba has indeed gently pushed the protesting figure of religious mysticism into his laboratory—and the more power to his efforts! But if religious mysticism is psychologically similar to other forms, and if other forms are readily accessible, why should they not be attacked experimentally, both for the light they throw on religion and for their own theoretical and practical importance?

A single instance of a recent mystic experience of my own will suggest what I mean. Walking in brilliant sunlight last fall, I had to put on dark amber-colored glasses. Instantly the world upon which I looked—the lake and the autumn foliage—were ten times more beautiful than they had been; they took on a strange mysterious vividness, a crispness and definiteness suddenly and profoundly refreshing. Why? I hazard the guess that I had gotten “negatively



adapted" to the colors as they ordinarily were; a slight change (though it might be esthetically for the worse) enabled me to see outlines which I had not seen before, and colors unusual enough to be fully appreciated. The whole had a new aspect. Is this not familiar language to the mystic? Over and over again we read in the accounts of the deepest mystical experiences that the same old sights and sounds, the same old words and symbols, suddenly took on new meaning. But in these cases some organic change had probably occurred; the individuals *felt* differently and the stimuli were presented in a different pattern. Unusual organic responses made the external stimuli themselves seem new (laboratory tests of such sudden changes in peripheral responses, the stimuli remaining constant, are common).

Yes, a *legitimate* conjecture perhaps, but conjectures are here of no great value except as hypotheses for more serious investigation. There is nothing in the world to hinder the *experimental* study of everyday mystic experiences. Why has it not been done? It is being done. The experimental study of the influence of drugs upon attitudes is one point of attack. Another is the experimental investigation of factors affecting confidence in one's own judgment. A third is the study of factors influencing political opinion. These are but scattered investigations, the authors of which do not seem to grasp the extraordinary importance and the myriad ramifications of their work.

Two things are very badly needed. One is the constant application of quantitative methods, that the wealth of variables involved even in the simplest emotional situation may be more adequately isolated. The other, even more important, is the addition of genetic methods, scarcely used at all heretofore (except by the inevitably inexact method of psychoanalysis). Mystic experiences undoubtedly are based upon the individual's entire personal history, and his childish emotional life is of special importance. Experimental child psychology is too recent a movement to have thrown much light as yet upon our problem. But to the student of religious mysticism it is worth following closely.

A general suggestion as to method in the psychology of religion seems to be justified. Valuable as are the attempts to describe the deeper experiences of religious mysticism, the recent history of psychological progress strongly suggests that such a *frontal attack* is hardly likely to be of much value. The real description and interpretation of such experiences are very much more likely to come from comparative psychology. Just as data from child psychology have proved valuable in the study of other branches of religious psychology, so in the study of mysticism progress is more likely to be made



by indirect methods, especially by the study of the mystical experiences of daily life. And such experiences are accessible to much more systematic attack through the use of experimental and genetic methods.

Perhaps the time will come when religious mystics will feel no indignity in allowing experimental psychology to attempt a direct examination of these experiences. Perhaps not. At all events, progress in a real understanding of such mainsprings of the religious life seems likely to be facilitated by recognizing the relevance and usefulness of certain researches already in progress in other branches of psychology.

GARDNER MURPHY.

COLUMBIA UNIVERSITY.

### MEANING AND EXISTENCE

IN their *Meaning of Meaning*, Ogden and Richards relate the following incident quoted from a book entitled *Among Congo Cannibals*, written by J. H. Weeks: "I remember on one occasion wanting the word for Table. There were five or six boys standing around, and tapping the table with my forefinger, I asked, 'What is this?' One boy said it was a *dodela*, another that it was an *etanda*, another stated that it was *bokali*, a fourth that it was *elamba*, and the fifth said it was *meza*." It turned out afterwards that "one boy thought we wanted the word for tapping; another understood that we were seeking the word for the material of which the table was made; another had the idea that we required the word for hardness; another thought we wished for a name for that which covered the table; and the last, not being able, perhaps, to think of anything else, gave us the word, *meza*, table—the very word we were seeking."<sup>1</sup>

The incident appears to me relevant to the first part of the recent article by Professor Hall.<sup>2</sup> In it, following what he takes to be the denotative method that I recommend and try to use in *Experience and Nature*, he selects a number of passages in which I am dealing with meanings, and implies that the selection is equivalent to the "pointing" required by the empirical denotative method. I can not complain that he has dealt severely with them or me, or that he relies upon any merely verbal analysis. But he seems to ignore the fact that "pointing" is not so simple and direct an affair as pointing a finger—or tapping on a table. In *Experience and Nature*, the words "showing" and "finding" are usually added in explanation

<sup>1</sup> *The Meaning of Meaning*, p. 174.

<sup>2</sup> "Some Meanings of Meaning in Dewey's *Experience and Nature*," this JOURNAL, Vol. XXV (1928), pp. 169-181.



of "pointing," while this is described, for example, as follows: "Index to a starting point and road which if taken may lead to a direct and ineffable presence."<sup>3</sup> The implication is that any idea, reasoning, theory, hypothesis, is an indication to a road to be taken so that its value is that of stating a method to be used, the value being tested by its capacity to terminate in the situation required. Hence—as the above incident shows—the "denotative empirical method" is not an affair of pointing directly to things (things being inclusive of passages in a book), but of having such ideas as point and lead by use as methods to some directly experienced situation. Hence regard for context is indispensable. Moreover, since the parties in question failed to understand one another because they did not share in a common situation—in one of communication—the anecdote may be taken to illustrate the need of a shared situation whenever the understanding of ideas and symbols enters into question. Hence I make the following comments in the hope that what I say may serve to indicate a road that will lead to and terminate in the *situations* that are designated by the symbol "meaning," and aid in instituting a shared situation and so promote understanding.

## I

Reference to Mr. Hall's text shows that he finds diversity and possibly inconsistency in at least five types of cases in which I refer to meanings. Some of the cases overlap, so I shall state them all before proceeding to deal with any of them. First, there are quotations to support the statement that I hold meaning to be *restricted* to communication and that in turn to linguistic behavior.<sup>4</sup> In conflict with this view are quoted statements by me which indicate to Mr. Hall that I accept "meaning" antecedent to language and discourse and the social participation based upon them. The second set of quotations concerns the temporal relations of the occurrence of meanings, and seems to indicate that after officially restricting meaning to a future reference, the facts compel me also to introduce "immanent temporal wholes." The third point concerns an apparent inconsistency between the instrumental and the final or consummatory character of meanings. The fourth set of quotations concerns meaning as "referential" and as "immanent." The fifth, as he points out, brings us back to the first point: there are quota-

<sup>3</sup> *Experience and Nature*, p. 86. The word "ineffable" occasions difficulty. The idea might be expressed by saying "presence in a non-symbolic way." Something can be said about a situation so present or "had," but it can not possibly be duplicated by any possible number or combination of symbols.

<sup>4</sup> The term "restriction" is not only used by him on p. 170, but is repeated several times with emphasis in his own discussion in the second part of the article.



tions that are taken by Mr. Hall to indicate that I at some times assert that meanings arise in direct interaction of the human organism with a physical environment, apart from any social mediation, or the function of "communication."

Let me state first that my general position is correctly stated by Hall in his second paragraph; namely, I hold that events "acquire meanings" or that "meaning occurs within nature."

1a. *Restriction to Communication*.—Coming to his first point, the assertion I make is that events "acquire" meaning through the fact of communication, which is an observably empirical fact in some phases of human intercourse. But being begotten is quite a different affair from subsequent development. There is not a word quoted by Mr. Hall to indicate that this further growth is "restricted" to conditions of *origin*. To say (as I do say in a passage cited) that "meanings do not come into being without language" is neither to say, nor to imply, that conditions of origin are identical with those of all subsequent status. Not only that, but a phrase in a sentence cited says explicitly that "its [languages's] consequences react upon other events physical and human, giving them meaning or significance." What is more important than this particular indication of the arbitrary character of Mr. Hall's imputation to me of restriction of meaning to linguistic behavior is the fact that the text of *Experience and Nature* devotes considerable space to showing that after communication has been instituted, its pattern is extended to all sorts of acts and things, so that they become signs of other things. There is nothing original in the idea of "language of nature"; such contribution as I have made to the idea consists simply in finding the locus of the *origin* of the voice and message of natural things in human communication.<sup>5</sup> What has led Mr. Hall wrong in this particular case of his use of the denotative method is failure to recognize the context of discussion of *origin*, so that in consequence he gives an illegitimate extension of passages that concern genesis to all further developments and functions.

1b. *Qualities and Meanings*.—The notion that, after I have found the origin of meaning in that interaction of natural events that constitutes the distinctive trait of human social life, I attribute meaning to events antecedent to any communication, contains an analogous misconception. (This statement applies to the latter part of the paragraph on p. 170 and also to the entire point made on p. 173.)

<sup>5</sup> The bearing of this point affects Mr. Hall's discussion in the second part of his article, since that is based upon imputing to me quite arbitrarily the "restriction" mentioned. Take for illustration his example from sailing (on p. 174). It is wholly compatible with my position that wrinkles, etc., in sails should convey to us messages that a particular speech terminology is inadequate to set forth.



I certainly hold that there are natural "prerequisites" of the origin of meaning in communication. Among these indispensable preconditions are the immediate qualities called, in psychological terminology, "feelings"; these are, as I have said, the existential basis and "stuff" of meanings. It is only by imputing to me the position that these qualities or feelings are themselves meanings that he can attribute to me inconsistency. That such qualities or feelings exist prior to, and independent of, any language function—even in the widest sense of sign-function—and that they guide behavior in all kinds of subtle ways, I distinctly hold. But I explicitly deny that they are meanings. Mr. Hall may hold they *are* meanings, and he may be able to give such reasons for so holding as to entitle him to the belief. But he is hardly entitled to imply or assert that I hold such a view, and then find inconsistency in my views.<sup>6</sup>

2. *The Temporal Question.*—That events acquire meaning by having their potential consequences identified with them as their properties (as in the case of practically anything designated by a common noun) I certainly hold. I also hold that when it is a question of *critical* search for *valid* meaning, namely, for that meaning we are *entitled* to treat as the genuine meaning of the events in question, we are obliged to have recourse to antecedent conditions. For when a question arises as to what the consequences *really* are, we must take into account a course of events and sometimes a long one.

3. *Instrumental and Final.*—The right determination of meanings thus involves the consideration of "total histories" or "immanent temporal wholes," for while the meaning of existences is constituted by expected or potential consequences, the nature of these consequences can be properly decided only in connection with such larger histories. When such a history is explicitly taken into consideration, the distinction of instrumental and final meanings is made or comes into view. That there are some things which have their meaning determined by use in attaining or accomplishing other things or that are tools, and that some meanings are deliberately determined as means of reaching other meanings, I do not suppose is questioned by any one.

Instrumental meanings also, and obviously, imply as their ulterior goal some meaning *to* which they are instrumental, or a meaning that is final, fulfilling, consummatory. On the basis of any empirical method, there are no meanings which are always and inherently instrumental or final; this is a matter of their status and rôle

<sup>6</sup> On p. 173, after quoting from me a statement about qualities, he inserts in brackets after the word "qualities," the phrase "direct meanings—in this case sensations." It is easy to convict any one of inconsistency by attributing to him conceptions which one holds one's self, but which the one criticized repudiates.



in some actual situation. Hence the need for taking a situation as a "total history." Antecedent events as such, or "efficient" events as preparatory conditions, define an instrumental meaning; the last or closing events taken in their meaning with respect to events that have preceded have final meaning. Each is correlative with the other with respect to the temporal course as a whole. A further reason why the relation of meanings in this phase to a "total history" is made much of is the fact that philosophical literature is so filled with instances of sharp separation of instrumental and final. It became necessary in criticism of such views to point out that *any* event, however instrumental, may also be fulfilling with respect to what antecedes; while, since the event with the final meaning is involved in an ongoing course of events, it has in this phase instrumental value. Instead of an inadvertent inconsistency, the reference to "total histories" is thus an integral and consistent part of the entire hypothesis.

4. *Referential and Immanent.*—There is an undoubted ambiguity in the word "meaning" as it is currently used. We say something means something else in the sense of signifying it, being a sign of it. This is equivalent to taking one thing as evidence for something else, a ground for inference to the other thing, as when we say smoke means fire—that is, where smoke is observed, fire is inferred. But events are also clothed with meaning on their own behalf; thus something is directly taken to be "smoke" in the instance just cited; the character of being smoke belongs to the event as it is observed—although in some other case "smoke" might be a character signified or inferred. The words "referential" and "immanent" are used to designate the two uses, so as to avoid the ambiguity that resides in the word as it is ordinarily employed.

Since it will be admitted, I take it, that I did not originate the ambiguity, but found it in the current use of "meaning," the question that arises concerns only the relationship of the two meanings to other phases of my entire hypothesis regarding meaning. (1) The recognition of the two kinds is consistent with the theory of origin in communication; sounds first gain meaning as signs when used to stand for something besides themselves; while in consequence of such repeated use, the things stood for come to be the "immanent" meaning of the sounds in question. (This is the case with the illustration of "cat" used by Mr. Hall on p. 179.) According to my hypothesis, immanent meanings exist in consequence of the repeated successful outcome of referential or evidential meanings. (2) As to the temporal matter, the thing signified in the case of an event as sign is something that is experienced in consequence of an act based upon taking an existence as sign or evidence; it is subsequent or



future in the course of experience. But critical testing of the validity of such a meaning involves recourse to larger temporal wholes. (3) Thus the fulfilling or consummatory meaning of a referential case becomes the immanent meaning, the directly taken-for-granted meaning, of subsequent situations. Thus, as far as I can make out, there is no inconsistency in the various parts of the whole theory; they hang together, imply and support one another.

## II

The foregoing is meant to cover the first section of Mr. Hall's article, in which he cites various passages of mine; by anticipation it covers also certain portions of his second section as well. There is, however, a point of considerable importance in his second section that has not been touched upon.<sup>7</sup> If I grasp the point of his criticism, it may be put baldly as follows: My treatment has no way of distinguishing events without meaning from others having meaning except as I attribute to the former some nature or character, and thus assign meaning to them. The distinction implies a connecting identity; that identity is itself one of meaning. It is, accordingly, argued that the distinction I have drawn is in reality one between partial, imperfect meaning and a fuller and more inclusive meaning, not between that without meaning and that with meaning. His third section, as I understand it, develops this idea positively. I shall, then, deal with this argument in both its critical or negative aspect and its positive form.

For a reason that will presently appear the portion of his argument based upon a logical analysis of my position will have to be dealt with briefly. That when I think of anything or when anything enters into discourse it in so far acquires meaning, there can be no doubt. And, of course, when events-without-meaning are referred to, that very fact brings them within the field of thought and discourse, and in so far confers meaning upon them, if only the meaning of being without meaning. One could go further: to refer to anything as an *event* is in so far to ascribe character or nature and hence a meaning to it. Of all this, there is no doubt. But to use these considerations as evidence that things have meaning prior to, and independently of, entering into thought or discourse is another matter. Such an argument converts a predicament of dis-

<sup>7</sup> I do not wish to leave the impression that I suppose that there are no laxities or inconsistencies in the treatment of meaning in *Experience and Nature*. There is one such case (but I think only one) in the passages cited by Mr. Hall, and I accept responsibility for that as far as it may have misled Mr. Hall. The exception is the use of the phrase "*sense of rightness*" in the passage quoted by him on p. 170. There is an undoubted shift here from "*qualities*" (or "*feelings*") to qualities with meaning, or "*sense*."



course into a trait of existence—a somewhat unconvincing procedure. The fact that if one supposes, by way of hypothetical premiss, that there are existences without meaning, they would nevertheless acquire some meaning in virtue of entering into discourse—and in my conception this is precisely what happens—deprives this argument of probative value. It is akin to the argument once used by idealists when they said that the realist's assertion that there are things not related to mind presupposes that things are related to mind.

The positive argument, as I understand it, comes to the following: What signifies, being a symbol, is meaning; what is signified is also meaning, but a larger and more inclusive meaning. Symbol and symbolized are thus related as a partial and a complete meaning; although we rarely if ever attain to the complete meaning, there is always a sense that it is there, and that we might go to it and explore it in at least some greater detail. "The symbol is not a self-contained whole external to and set over against another self-contained whole which is its meaning. No, the symbol is a true part of the meaning" (p. 179). "The meaning (that which refers) and the meant" are not "separate and external." For example, a sailor in a storm hears a whine, a roar, a crack. "These sounds means that a sail has been blown out of its bolt ropes. Clearly the sign or symbol is here not external to the signified" (p. 180).

Let me restate the matter in terms of my own hypothesis. There are two possible cases, those of "referential" and "immanent" meaning. In the former, there is an event that has the meaning of indicating, signifying, being a sign or evidence of something else. This case would be exemplified if the sailor were inexperienced or were a landlubber. He would hear the shriek and crack, and would think it signified something, but he would have to *infer*—use the noise as a symbol—and do something to find out what it signified. If, however, the sailor is experienced, the consequences of his prior-tested and verified inferences enter directly into the object of perception; the noise will *be*, to him, a sail blown out of its bolt ropes. This sort of thing is what is intended by the phrase "immanent meaning,"—precisely the same sort of thing happened in the case of the supposititious landlubber when he identified an event as a noise, a cracking noise, etc. In such cases there is no distinction of something as sign and something else as thing signified; there is a total situation "had," having its direct meaning-content. Upon my hypothesis, however, there are no "immanent meanings" except in consequence of the results of prior referential or reflective (inferential) meanings. And the event in its immanent meaning also enters into some other situation with reference to a part of which it serves as a sign—in the referential sense. For example, just as the land-



lubber in hearing the peculiar noise would ask what it signifies, the sailor will ask, on "knowing" that the sail is blown out, What next? Or, what shall I do about it?

Returning to Mr. Hall's account, the following difference between it and mine is evident. According to him, the sound is intrinsically a meaning. According to me, the sound is something which is used or taken as a sign, and hence "meaning" is here a name for the *relation* between it and something else—the relation being the function or office of serving as a sign of something else. The related is identified and demarcated by the operation of inference. In the same way, the thing signified is not meaning unqualifiedly; it is something *having* meaning; something indicated and taken as satisfying the requirements of the thing or events having the signifying rôle. Of course, the signifying event is not self-contained; if it were it would not signify; the very meaning of being a signifying event is that it stands in the *relation* of indicating. And when the inference is completed, there is a "whole," a situation in which the distinction between signifying and signified no longer holds; for the completion of the inference is found in a situation which is directly "had"—the situation "we go to" and then go from.

In taking the symbol and the thing symbolized as themselves "meanings" in their own right and behalf, and not because of the relation they enter into—that of inference,—Mr. Hall to my mind unwittingly begs the entire issue. Thus he says "the *symbol* is not a self-contained whole, but is a true part of the meaning." But the question at issue is already decided when a thing is termed a "symbol"—to term it a symbol is, of course, to assign meaning to it. The real issue concerns the conditions under which a thing *becomes* a symbol—or at least concerns the question whether they *are* symbols inherently or become symbols in their use as signs or evidence in inference. Consider the following sentence of Mr. Hall's: "It is the arbitrariness of symbols in language which lends false color to the notion that meaning (that which refers) and the meant are separate and external" (p. 180). To call *that which* means meaning and *that which* is meant meaning is simply, I submit, to beg the issue. His statement is open to the obvious reply that he has taken advantage of an elliptical use of language. "Meaning" as "that which refers" is a short expression for some existence that stands as a sign or as ground for inferring something else. "The meant" is a short expression for something in its capacity of being intended or signified in the reference. Mr. Hall's view is that which signifies is intrinsically a meaning, and that it means a meaning. My view is that a *thing* signifies another *thing* in being employed as an evidential sign, and that in this *relation* both acquire meaning. Even in



case Mr. Hall's view is right and mine is wrong, the case can not be settled by taking advantage of the ambiguity involved in an elliptic use of language. Then, in the case of "cat" that has come to have immanent meaning and of the sail-blown-out-of-bolt-ropes, we have by my theory the funded immanent result of the successful issue of prior referential or reflective relations. It is necessary, as was pointed out earlier, not to be misled by the ambiguity in the ordinary uses of the word "meaning," and so shift without warning from one sense to the other.

This discussion is not supposed to prove my position or disprove Mr. Hall's. It is intended to make clear the distinction between them, and to make explicit the assumptions on the basis of which Mr. Hall reaches the conclusion that "existence" is itself but a partial meaning within a larger whole of meaning. To my mind his argument is an able and ingenious restatement of the idealistic position as conveyed, for example, in Royce's distinction of external and internal meanings. The topic of meaning is certainly one of the most important in contemporary philosophical discussion, and while I regret that my article is necessarily so controversial, I wish to express my appreciation of the genial temper and acuteness of Mr. Hall's article, and my gratitude to him for giving me the opportunity to restate some points in my own hypothesis in their relations to one another.

JOHN DEWEY.

COLUMBIA UNIVERSITY.

## BEHAVIORISM AND METAPHYSICS

ONE of the most noticeable and noteworthy tendencies in contemporary thought is the advance or retreat, as one chooses to consider it, of sciences into metaphysics. As before, the experimental work of science, the collection of facts, goes on without regard for metaphysical implications or conclusions. But there is an increasing recognition of the need for metaphysical investigation of fundamental concepts in the formulation of hypotheses and in the systematic setting forth of any science as a whole. This work of the destruction of illegitimate assumptions and the construction of adequate analyses as a substitute for dogmatic presuppositions, such as is being done for physics by Russell, Broad, and Whitehead, is for the most part lacking in psychology. Either ignoring or dogmatically rejecting all metaphysical interpretation, psychologists liberally on their way in apparent indifference to the fact that their boasted disregard of metaphysics means simply an uncriticized assumption of the medieval tradition carried on into modern thought by Descartes and Locke. Mind, body, causality, time, space, physi-



cal object, are taken for granted in a way which is a naïve combination of uncriticized experience and Cartesian dualism, regardless of the shifting instability of the former and the logical contradictions involved in the latter. This failure of orthodox psychology to investigate its own presuppositions is one of the main reasons for the development of behaviorism, and the impulse to redeem that failure may prove to be one of its main contributions to psychological theory.

If it be permissible to distinguish between behaviorism and behaviorists one may say that, while the behaviorists are still for the most part repudiating any philosophical responsibility, behaviorism is actually an attempt to make psychological theory adjust itself to a more adequate metaphysics than that implied in the older tradition. Behaviorism in psychology, like realism and pragmatism in recent philosophy, emerges in the first place as a movement of protest, and carries to the present the chip-on-the-shoulder attitude that is characteristic of all such movements. It protests first against the atomistic conception of man, the conception of him as made up of bundles of conscious elements, or bundles of any other kinds of elements. "Let me start by saying that man to the behaviorist is a whole animal. When he reacts he reacts with each and every part of his body" (Watson, "The Nursery and Instincts," in *Psychologies of 1925*, p. 2). This protest the behaviorist shares with the self psychologists and the upholders of the *Gestalt* conception. In all of these there is this same reaction against the atomism of the Titchenerian school. The emphasis on the self, the configuration, the organism, is a somewhat tardy recognition in psychological theory of that principle of a differentiated unity which has at times played so important a part in philosophical thinking, but which had no recognized or consistent place in the orthodox philosophy of the seventeenth century on which nineteenth-century psychology was founded. The Platonic tradition of a unity which is more than the sum of its parts lived on through the middle ages in the work of the mystics, from Dionysius the Areopagite to St. Bonaventura, never completely rejected by orthodox Scholasticism and never wholeheartedly accepted. In the enthusiasm for mathematical demonstration which accompanied Descartes' philosophical house-cleaning this principle of a synthetic and self-differentiating unity was lost sight of, perhaps because of its connection in the mystic tradition with occult qualities and other vague and indefinable concepts. In philosophy the conception of unity, of wholeness, returned with new emphasis and meaning, tentatively in the Leibnitzian doctrine of the supreme monad, with certain subtle and complex qualifications in Spinoza's description of Substance, more self-consciously in



Kant's synthetic unity of apperception, and with fully developed significance in Hegel's dialectic. In recent and contemporary metaphysics this principle is fundamental. The disagreements are as to its adequate application. In psychology, however, the principle of a thorough-going pluralistic atomism remained dominant and almost unquestioned until near the beginning of the twentieth century, partly, perhaps, from an unrecognized sense of necessary dependence on the philosophy from which psychology as an independent science had its birth, and partly by way of asserting that independence by refusing to follow the line of philosophical development. However unwillingly, then, behaviorism must accept the credit for being one of the forms in which this psychological neglect of the last century is being balanced by the present recognition of the principle of the organic whole so as to bring psychological theory into line with logical and metaphysical advance.

The second protest of behaviorism is against the whole conception of consciousness, ideas, mental facts. Here, as far as psychology is concerned, it stands alone. This protest, like the other, is directed against the carrying over into psychology of seventeenth-century dualism. For the behaviorist the relation of the individual to the environment, which forms the subject-matter of psychology, is the relation of one physical organism to another. It is not to be construed as the relation of mind or consciousness to a physical environment, for mind in this sense is a meaningless and useless assumption. The physical stimulus affects the body, which in turn reacts to the environment, adapts itself to the situation, or changes something in the surroundings, or removes itself from the unpleasant place. There is no need for the intrusion of a second kind of reality in addition to the physical body and the physical objects. Consciousness as an intermediate stage between stimulus and reaction, or as the epiphenomenal whistle that accompanies the train, is a superfluous assumption. The facts consist in various physical objects, animate and inanimate, acting and reacting in various and complicated ways, simple actions of gross bodies, delicate and subtle adjustments of highly complex organisms, and all intermediate varieties. Now this conception, as far as it goes, is exactly in line with that philosophical development which started with Berkeley's insistence that the object perceived is the real object, and is still continuing in the form of absolute or objective idealism. Berkeley chose to say that things are ideas, but that is the same thing as saying that the ideas of these physical objects are the actual, identical objects instead of being Cartesian copies of the objects. Behaviorism chooses to say that there are only things, not ideas, but agrees with Berkeley that the objects seen and handled are the



real objects. The perceived body is the body which reacts. Some of the reactions are unseen and are inferred from others which are seen, but these are all of the same kind, all equally real, all equally part of the real world. For behaviorism as for Berkleian idealism there is no separation between one group of facts, called mental, and another group of facts, called physical or material. All are parts of the same systematic unity of related objects which is the real world. Berkeley, to be sure, and most of his modern followers, consider that this is only half the story, that there must be some account or description given of the nature of that systematic unity. This does not interest the behaviorist. It is metaphysics, or religion, or superstition, or something else. His business is with these reacting organisms, not with the hypothetical whole of which they are a part. Let him have these organisms with their stimulus-response mechanisms, and let him not be bothered by some uncertain *secundum quid* of consciousness which is the perceived objects and yet is not the perceived object. It is exactly this metaphysical basis which is provided by idealism, and behaviorism is the belated recognition in psychological theory of that departure from Cartesian dualism which in philosophy was made so many years ago that a partial return to it is now in fashion. Orthodox psychology has continued on the basis of that medieval dualism from which it grew. Behaviorism has thrown overboard this dualistic interpretation, has refused to see a chasm between mind and body. Like the *enfant terrible* of the folk-tale who insisted that the emperor was walking all unclothed in the great procession, behaviorism in denying that there is any mind-body problem has aroused anger and opposition in the ranks of the pious observers of tradition. At least it has raised the question of an adequate metaphysical basis for psychological theory, and it may succeed in working out a satisfactory science of psychology on the basis of objective idealism.

WELLESLEY COLLEGE.

FLORA I. MACKINNON.

## BOOK REVIEWS

*The Metaphysics of Pragmatism.* SIDNEY HOOK. With an introductory word by John Dewey. Chicago: Open Court Publishing Co. 1927.

What is called metaphysics in philosophy has had a troublous development since the *Critique of Pure Reason*. It has been penitent, tragic, and romantic by turns. Penitence has consisted in giving bad metaphysical reasons why there can be no science of metaphysics. Tragedy has consisted in stating a criterion of rigor in



method which is self-refuting in the end. Romance has exploited metaphors borrowed from non-metaphysical literature, stretching and expanding them until they give the impression of at least total comprehension.

Mr. Hook's book takes pragmatism out of the first variety and puts it in the last, which, therefore, deserves some special attention in this review. The use of metaphor in philosophy (see Mr. Pepper's article on this matter in a recent number of this JOURNAL, Vol. XXV, No. 5) parallels a procedure in mathematics. In order to find the limits of a function one sometimes "puts" certain variables equal to suspected limiting values and proceeds to derive the consequences. The result often reinterprets the function's properties and adds to mathematical knowledge. The problem of mathematical induction was thus clarified. When no justification for its use had been found in the then known properties of the number system, the inductive property was assumed to hold. The result was an improved definition of the number system. Metaphysics in the past has often had recourse to the same device. Idealists were worried over the problem of the correspondence of thought with its object. They therefore assumed that objects had the properties of thoughts, thus contributing new subtleties to logic and formulating more clearly their own metaphysics. Rationalists were accused of forcing causality into an infinite regress. Spinoza assumed a *causa sui* and derived a hierarchy of causes from it, thus clarifying points in scientific method and saving the appearances. Aristotle, watching things appear and disappear in exasperating ways, compared latent and apparent with potential and actual, thus making "oaks grow from acorns according to law" a model of scientific thought.

Thus Mr. Hook, watching the pragmatists and the mechanical industrial world wrestle with the ambiguities of instruments, decides to define reality in terms of instruments and derive the consequences. The world is my instrument; the other apparent features of reality can be derived from this premise. This is the burden of the story to which this book introduces us. It begins by noting the rôle of instruments in science and industry. It then adds that things in general are like instruments. Extending the analogy, Nature falls into the familiar category of means and ends—except what is left over, and that is credited to contingency and novelty. The suggested consequences are interesting and important.

First, the features of experience that are thrown into relief re-interpret that part of pragmatism which is usually called humanism. Things as instruments are not caught in the subject-object predicament. The nature of the instrument is recognized and respected as fact and yet is conditioned by other things commonly suspected



of vicious subjectivity; but when such subjective conditions, for instance interests and biases, are instrumentalized, they are reabsorbed and reinterpreted as parts of nature and subject to its laws. The bifurcation of nature is thus healed and man and his knowledge are thrown into a perspective at once familiar and significant.

Second, the arbitrary dogmatisms of idealism and realism are thrown back into the melting pot of scientific method where hypothesis and fact take their chances with other elements in human experience. Absolute ideas and real objects are shown to be temporary products of passing fashions in instruments which arrest and reveal the stresses and strains in the flux. The accurate account of nature will be the history of these fashions with epochs distinguished by dominant technologies.

Third, the fact that instruments and instrumental ideas are limited, means that they are selective with respect to experience; what is left out will be radical chance and novelty. It can be said that instruments reveal these by negative selection. Consequently, the intellectual as well as the practical enterprise is adventure as well as organization, and the universe is open. Neither instruments nor ideas can exhaust the possibilities.

Finally, logic is again the organon of knowledge. It arises from techniques and habits and therefore it is a versatile art to cope with situations as they arise. The instrumental character of logic allows for many diverse logistic devices and many alternatives in scientific procedure. Further, the principles of logic are leading principles, hence engines of discovery as well as rules for exposition. With this emphasis on discovery of facts rather than proofs for theories the problem of induction loses its horrors. Hypotheses, like other instruments, reveal what they reveal and having no need of proof are in so far forth true. What this eliminates from logic—and for some of us it is the major portion—is vicious problems.

The nature of the argument precludes any general cogent refutation. There are many points where one would like to propose cases that would be difficult for the instrumental analysis, but with a little attention to the assumptions of the system and a willingness to restate one's difficulty in terms of these, the answer is easily discoverable, and it will simply extend the metaphor.

Much of contemporary metaphysics is of this sort; it is misplaced methodology. In this case, as in many others, it promises to turn up many a happy combination of ideas. For instance, it integrates what has often seemed hit or miss in pragmatism, transforming a pluralism of theory into a theory of pluralism. There is in it a promise of a philosophy of history broader and more incisive than current doctrines of economic and folkway determinism provides.



Finally, there is a suggestion of the need of a careful detailed analysis of instruments and the techniques of measurement in science. The last would be a crucial test of the premises of the system in that it would necessitate their more accurate and rigorous statement. Until this is done criticism is precarious.

However, one can and ought to protest against the faith or will-to-believe that is the nerve of the argument as it stands. There is at least one other point of view which contends that laboratories, instruments, and "controls" are refracting mediums for human knowledge. Not only are things like instruments, but instruments are like things, opaque, refractory, and intelligible only to believers in transubstantiation. The orthodox Catholic believes in the things revealed by the instruments used in the Eucharist, and at one time there were those who believed that the revelations made by scientific instruments were deceptive works of the devil. What do the instruments reveal and how do they reveal it?

This book will do a great service if it draws attention to this problem of essence and existence in its modern form. Until then, it stands as an impressive formulation of the apologetics of pragmatism.

SCOTT BUCHANAN.

THE PEOPLE'S INSTITUTE,  
NEW YORK CITY.

*The Theater.* STARK YOUNG. New York: George H. Doran Company. 1927.

Works on morals or politics or atoms are often brought to the attention of philosophers; books on art less often, and a book called *The Theater* may seem a far cry indeed from the pursuits of logicians and metaphysicians. But this little book of Mr. Young's has more in it of sound general esthetic theory than many volumes under that heading in university libraries. It may shame some of us to see how a clear head and a brilliant perception for the theater come directly to a general conception of the art of the theater that not only illuminates esthetics far more than most current philosophical views, but also contains suggestions for more general theory. Mr. Young's book is as unified as Croce's famous *Æsthetic*, without Croce's lack of any fresh or convincing reference to actual works of art; and while his view sometimes suggests Platonism rather than naturalism, his actual account of art as in the theater is closer to earth, fuller of his specific subject-matter, and more definitely and consistently applicable to practice, than Santayana's somewhat slight account of the same subject. Once we take an art seriously and concretely, provided our brains are really in good order, it would seem that we are more likely to discover even philo-



sophical truths about the nature of art in general, and perhaps also about the nature of thought, than through the channels of philosophical speculation so-called.

The simple and single theme that Mr. Young discourses upon is not, of course, original, does not pretend to be; but it has body and vitality and significance as it is read into, and out of, all the chief phases of the art of the theater in ancient and modern examples of that art. Instead of being merely the old abstraction that matter is informed by spirit, it is this general truth that life and vitality take on form in art, and do this successfully, as they achieve their own peculiar idea or intention in any case; and it is always the cases that are given. So we are told precisely the sense in which plot is fundamental, plot being not the clever devices of the so-called technique of dramatic writing, but the intention or idea of a play as expressed not only in the action of characters, but in these actions in combination, meeting and crossing in a world of life here embodied, so that a plot includes both character and action, and is thus more completely or inclusively expressive of the essential quality of the play than character as such. The Aristotelian theme, the sense in which the substantial reality of a play, as of anything whatever, is its matter only as informed by essence or idea, is freshly and vigorously brought to bear on the whole subject-matter, as each aspect of the art of the theater, clearly grasped, becomes a concrete statement in particular terms of this one central theme.

The impure or mixed art of the theater achieves its own perfection not through standards; but an example of it arrives when its particular informing idea comes into existence through its own media; there are many avenues, visual, symbolic, musical, but they all lead in their various ways to expressing the one intended idea or point that the play as play expresses in its own theatrical terms. And a play is a play, as any work of art is art, not by virtue of rules or standards exemplified, but by virtue of the unity achieved in an expression which is nothing at all as art, until the idea takes on the form that the medium is capable of assuming, and so fulfills the artist's intention, whether this intention is a dramatist's, or an actor's, or that of a director reviving a classic. "To keep a play alive we must find always anew a body to express this idea . . . we must discover afresh for it the right mental and visual accents, or it will be dead." This also puts into proper focus both the value of theater craft as such and the greater value of the original or poetic mind, perhaps only clumsily using that craft, but bringing life to the theater, with its pressure of idea and intention. The contribution of the little theater to the theater of the world, as well as its dangers and shortcomings, are easily plain under the same fundamental notion.



Furthermore, what is expressed in the theater, specifically in acting, "is said in terms of the human body, voice, action, gesture, presence," and these non-verbal terms, these non-linguistic, non-symbolic media, add much to expression that words can not say at all. In fact, any consideration of the theater as art not only illustrates and emphasizes the ancient mystery of form and matter, or, if you like, the ancient obviousness of their combined necessity to existence; but it forces upon us the particularity and individuality of all the works of all the arts, the relativity of all standards, and the uniqueness of expressive intention through which alone any work of art can be either created or grasped. Without this grasp of specific idea or quality, judgment or comment on a work of art is irrelevant; and for philosophers especially it is worth pointing out that the ideas or forms of art, those things which in the end it does express, are only very rarely what linguistic symbols can give any accurate account of. The Casket Scene in the *Merchant of Venice* is "only a pageantry of ghosts on a Venetian stream," seen best as a Renaissance tapestry, and the Quality of Mercy speech "is more happily seen not as a sermon but as an aria." So even the linguistic arts, as in the theater, mean what words will not say as literal words; and if we are not to let verbal philosophizing lead us to a mystical Platonism in esthetics, or to mere vagueness, we shall perhaps have to let a straightforward grasp of the concrete nature of art lead us to pluralism, and a renovated nominalism in logic.

D. W. PRALL.

UNIVERSITY OF CALIFORNIA.

*Psychologie de l'art. Essai sur l'activité artistique.* EUGÈNE DELACROIX. Paris: Félix Alcan. 1927. Pp. 481.

This is a delightfully written and penetrating study, based on a first-hand acquaintance with facts illumined by the ample scholarship characteristic of the author. M. Delacroix has evidently approached the study of art with no pet theory of his own to establish and with the widest possible hospitality towards the ideas of others. What impresses him most about art is its complexity and the fact that it is rooted in the whole man, which makes him sceptical of any easy and simple formulation of its essence. Where other students have seen a single aspect, he sees many; it is therefore harder for him than for others to find a unifying principle. Owing partly to this and partly to the staccato structure of his writing, it is sometimes difficult to get a clear net result from his discussions; yet one never fails to win increase of knowledge and new material for one's own meditations. No student of esthetics can afford to neglect this book. The book is divided into two parts, the first containing an analy-



sis of the esthetic experience and a comparison of art with other types of human activity; the second, a study of three arts, music, poetry, and painting. The first chapter of the first part, *Le monde de jeu; Le jeu et l'art*, is one of the most interesting and charming in the volume. M. Delacroix carefully and fully notes the points of resemblance between art, on the one hand, and play and dream, on the other hand; yet he insists equally on the impossibility of identifying them. Art differs from play in issuing in a permanent work which pleases the spectator through its sensuous qualities and its form; while, from the point of view of play, the object—such as a toy—is a mere stimulus to the activity of the imagination, and its special qualities are of little or no account. “Art, like play, is joy in creation [to translate from the text] but it creates a harmonious reality; it constructs a world which imposes itself upon our minds by its order and its laws” (page 45). The second chapter, *L'animation de l'univers*, is a discussion of *Einfuehlung* in its various forms. Once again Delacroix insists on the uniqueness of art. He recognizes that the animation of the world is a condition of art; but it is also, he says, a condition for all intense life; while, in addition, and more characteristically, art is “fabrication and artifice,” “construction of forms, docile and expressive” (page 66). Chapter Three, *La contemplation des idées*, discusses sympathetically the idealistic systems of Schopenhauer and Hegel, yet criticizes them for their tendency towards *essentialism*. The Idea, Delacroix says, “runs the risk of becoming a thing and ceasing to be creative spirit” (page 80). Chapters Four and Five, *L'état esthétique* and *L'artiste et l'œuvre*, show the catholic point of view and varied learning of the author. Throughout, Delacroix is aware, and makes his readers aware, of the difficulty of reducing the manifold phenomena of art and the artist to any single formulation. Perhaps a translation of a few characteristic passages will serve best to summarize his thought and indicate the suggestive, and at times rather vague, language in which he clothes it. “Feeling and idea take on an esthetic value only through the struggle with the matter in which they realize themselves” (page 84). “The world of art is the world of thought, imposed upon, and substituted for, direct stimulation and action; it is the world by way of thought and language” (page 84). “Every complete esthetic pleasure is a synthesis of a sensorial pleasure, a formal pleasure, and a pleasure distinctively affective” (page 92). “Those organic states which are being described with increasing precision are only a stage, a single moment of realization, of esthetic emotion” (page 113). “To find the perfect pattern of a sentiment or an idea; to bring it about that each sentiment opens, expands, and closes its song according to its own curvature, and in accord with its



original volume, that is the supreme difficulty of art" (page 209).

In my opinion, the best chapters of the book are the first two chapters, which treat of music, of the second part. There all the author's erudition and delicacy of mind are brought into play. In the first of these chapters, *Les éléments principiaux de la musique*, he succeeds with great subtlety in holding the balance even between formalism and expressionism, summing his thought in the striking, though question-begging phrase, "*La musique musicalise le sentiment.*" The second chapter, *Les variétés de l'expérience musicale*, explores with thoroughness the many different types of musical appreciation. The last two chapters, *L'art poétique* and *Les moyens de la peinture*, are interesting but of slighter value, the one on painting being obviously incomplete as a treatment of the art. Finally, in the *Conclusion*, M. Delacroix sums up his thought and approaches the problem of the function of art. And once more we find him impressed with the complexity of the facts. For him, there are two types of art, each with a distinct function; on the one hand, an art which seeks "to prolong life, without changing its nature, to redouble and reinforce life"; and, on the other hand, there is an art which "aims at flight from life"; "he who can not bend the world to his desires tries to give to himself another world, an opening out of his desires" (page 480).

It is to be hoped that this excellent book will find a translator capable of doing justice in English to the subtlety of its thought and the elusive quality of its style.

DEWITT H. PARKER.

UNIVERSITY OF MICHIGAN.

### JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. 53<sup>eme</sup> Année, Nos. 5 et 6. Les béatitudes: P. Janet. Pensée et volonté: D. Parodi. De l'éthique à l'esthétique à travers la mystique: J. de Gaultier. L'éveil de la pensée scientifique: A. Rey. Une hypothèse différentielle sur la loi de l'oubli: S. Griolet.

SCIENTIA. Vol. XLIII, N. CXCIV-6. The Unity of Hindu Contributions to Mathematical Science: L. C. Karpinski. La prévision du temps: J. Mascart. Neuere Theorien der Gebirgsbildung. I. Teil: Bewegungen und Verschiebungen der Erdkruste: F. Machatschek. II "Dumping" e i suoi effetti sul commercio internazionale: A. Cutrera.

Blondel, Charles: Introduction à la Psychologie Collective. (Collection Armand Colin, Section de Philosophie, No. 102.) Paris: Armand Colin. 1928. 206 pp. 9 fr.



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Lascaris, P. A.: *L'Education Esthétique de l'Enfant*. (Bibliothèque de Philosophie Contemporaine). Paris: Félix Alcan. 1928. 508 p. 50 fr.

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Kane, Elisha K.: *Gongorism and the Golden Age. A Study of Exuberance and Unrestraint in the Arts*. Chapel Hill: University of North Carolina Press. 1928. xvi + 275 pp. \$3.50.

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*Chronicon Spinozanum*. Tomus IV. 1924–1926 incl.; Tomus V, 1927. Hague: Societas Spinozana. (Cincinnati: A. S. Oko, Hebrew Union College Library, Secretary for America.) xxiv + 284 pp.; xxviii + 190 pp.

Sharp, Frank Chapman: *Ethics*. (The Century Philosophy Series.) New York & London: The Century Co. vi + 566 pp. \$3.50.

### NOTES AND NEWS

Professor John Dewey of Columbia University has been appointed by the University of Edinburgh to give the Gifford Lectures in April and May of 1929.

The Gifford Lectures were established in 1887 through an endowment by Adam Gifford, Senator of the College of Justice of the University of Edinburgh. The lectures are called the Gifford Lectures in National Theology, but the lectureship does not belong to the Theological Faculty; its purpose lies nearer to philosophy than to theology. The lecturer is free to discuss his subject without reference to any limitation of dogma or authority.

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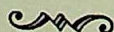
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## WAYS OF BEING

THE following map of reality is merely a map, a dogmatic portrayal of a philosophy and not a defense of it; for so large a field can obviously not be argued in so small a space. I shall avoid the current fashion of painting *realms* of being and attempt instead to discover *ways* of being. The word "being" is really a participle of a verb, and I am starting with the Aristotelian presupposition that being is a process. It is therefore not to be divided into realms, but into modes. This is not a verbal distinction, for on the basis of the metaphor of realms, a being is usually assigned to one realm or another exclusively and the passage from realm to realm is fraught with mystery. Whereas on the basis of the metaphor of modes or ways, one and the same thing may presumably *be* in several ways. In any case, it seems easier to me, and more empirical, to begin asking *how* things exist, than to start with kinds or realms of being. For this is intended as an empirical inquiry. It may be possible to sit down and calculate dialectically the possible ways of being; suffice it here to discover a few of the actual ways. Others may find more, but in the meantime the following three may serve as a beginning. I must ask your indulgence in the matter of naming them—any label will surely be misleading. I must therefore risk an arbitrary label and then describe the thing labelled from various points of view, trusting that the description will reveal the meaning of the label.

### I

A thing may be said to be *in nature*, naturally, indefeasibly or absolutely. Let us call this *existing absolutely*. To be, in this sense, means to be an event, a happenstance, or occurrence. Things can occur only in time and space. They can be neither instantaneous nor changeless, neither points nor infinite. I do not mean that they must be located in a space-time system, either by simple or by complex location, for locating systems implies points and instants. I mean empirical, real time and space, where there are no points nor moments, no past-present-future, not even a "flow" of time or an extent of space, but time as the endurance of an object and space as its boundaries—sheer unmeasured, concrete existing. In this sense things pass in and out of being. They exist here and not there, now



and not then; but their here and now is intrinsic, not relative. The coming and going of a lightning flash mark the beginning and end of a being; so does the rising and passing of a storm. Weather in general and the solar system may come and go. So also New York has its time and place of being; so justice, sorrow, philosophies come and go. And between their coming and their going, their presence and their absence, they are existing "things," absolute beings. New York, justice, and sorrow, may, of course, not have standard or absolute meanings. But take *any* meaning and if it designates certain events or series of events, such a meaning names an absolute existence, regardless of the relativity of the name itself.

If being an event is a general way of being, time, space and motion appear to be its forms. But then they must not be said themselves to *be* in any sense. For if time, space, and motion are said to be, then other beings must be said to exist in existence or be in being, which is absurd, or at least redundant. Time, space, and motion may be distinct ideas and have distinct names, but existentially they are intrinsic factors in the process of being, and can be abstracted from this process only in thought. They have no being of their own. Or, on the other hand, if, following certain philosophers, we call time, space, and motion beings, then we must admit that nothing else is; and then our pursuit of being becomes non-empirical, for time, space, and motion can obviously not be experienced as events.

It follows, further, that a thing's being does not consist of its coming in or passing out of being. Flux is not the essence of being, but an accident. Until recently it was thought that atoms were indestructible, or that, if not atoms, still smaller elements were everlasting, neither came nor went. This is a matter to be settled by physical science. But for the present it seems as though nothing empirical were eternally conserved. The ether, energy, and such like, may be eternally conserved, but they are systems or hypotheses and do not exist in this absolute, concrete sense of which we are now speaking. But whether beings are everlasting or not, their coming and going mark the limits, not the essence, of their existence. Existence itself may metaphorically be called a flow, but existing things exist in spite of the flux, not by virtue of it.

Their existence lies in their endurance. Each thing has its own endurance; that is, in this absolute sense, existence does not take place in the moment between past and future, for really, in so far as they exist at all, past and future exist in the present. Endurance, empirically, metaphysically, is not something which can be measured by any standard whatsoever. A thing's endurance is simply its temporal-spatial being, regardless of who else or what else be pres-



ent. If it be insisted that a thing must be present to something, that absolute endurance is indefinable, I reply that two things must both be *there* absolutely before they can be present to each other. Otherwise relative presence is at least as unintelligible as absolute, spatio-temporal endurance. For example, beauty (I mean the events which *you* choose to call beautiful) is never present universally, and seldom absent entirely. War exists recurrently. Existence, in short, is not what exists at this moment, nor at this specious present, nor for a standard observer, nor is it all that ever has been or will be. Existence is not to be understood in terms of spatio-temporal cross-sections, but in terms of intrinsic life-spans or careers. Existence for a lightning flash is brief indeed; for a solar system it endures for ages of monotonous revolutions. But as soon as we speak of a brief or a long existence, we are bringing in an accidental human relative factor and abandoning the absolute way of being. A thing may exist in one place and not in another, may be present to one person and absent to another, past for one and future for another; it may recur or not, it may even be everlasting. All these fluctuations are irrelevant to the nature of absolute being. Given an absolute being, we may ask to whom, for what, or how often it comes into being, but such questions presuppose an absolute event as the subject-matter of the question.

Absolute being is not an order or hierarchy. Any being may be called a single whole or individual; but this raises no question as to its parts or its larger whole. Part and whole, cause and effect, and similar categories may be applied to specific structures or systems in nature, but these systems must exist absolutely as well. Their being in nature does not imply a hierarchy of systems, an order of orders. It may seem like an idle quibble to admit orders in nature and then deny order to nature. But the distinction is important. Order may be heaven's first law, but nature's first law is patience. Nature bears all her children without favoritism and destroys them without regrets. Nature has no point of view, no meaning and no goal. Nature is blind, infinite, formless, pluralistic. Forms, purposes, and points of view exist in nature, for nature is not sheer chaos; but their existence is just as arbitrary and absolute as that of any other natural event. From the point of view of our solar system eclipses must necessarily take place, but the solar system with all its eclipses and other consequences exists for no reason at all. Things do not exist in nature by necessity. Nothing *must* be, nor is there any reason why anything should be. Things simply are. Contingency and individuality are the universal categories of absolute being.

When this analysis is applied to the field of history, there are



few, I believe, who would object. Some there are, to be sure, who still speak of *The* outline of history and who really believe that history proceeds on a unified plan of linear evolution. They believe that history has an absolute pattern which human historians gradually approach as they learn more about human experience. But most philosophers of history are now willing to admit the relativity of history. Histories are always teleological, selective, and partial. The world of facts from which they are constructed tells no tale and has no meaning. Hence, as a recent writer puts it, history can never be a science; rather it is the store-house of facts or raw materials out of which sciences grow and to which they refer.

The term "event" is misleading in this connection. The word "event," as it is generally used, implies teleology. An event is an outcome, a significant happening, the beginning or end of a story or history. Events, in this sense, are evidently systematic in their being. But it is also evident that only a small fraction of natural occurrences in space and time are ever selected as such events. In any case, the eventfulness of an occurrence does not exhaust its being; it has its own individual, absolute existence, quite apart from the various meanings and systems into which it enters.

When this analysis is carried over from history into nature at large, or natural history, the term "order" immediately slips in: *The* order of nature. I think we are still under the spell of Newton and the solar system. If we would turn from the neat pattern of our particular solar system and think in terms of star groups, star drifts, star collisions, we might still see gravity, but we would see less order. If we would turn from the orderly expositions and mathematical formulæ in our scientific texts, and observe laboratories in operation, we would get a truer picture of the raw material of science, and the so-called natural order of events. We might then return to the Hobbesian and primitive picture of the state of nature as one of endless dangers, conflicts, and collisions, where reason exists, but does not govern.

No natural science of nature as a whole is possible. All science is human and relative. Nature knows nothing and is known only piece-meal. But the very relativity of science points to the realm of absolute being. For science is science of natural existences and its relativity applies to its techniques, not its subject-matter. For it does not follow from what has been said that nature is unintelligible. The question of nature's intelligibility as a *whole*, does not arise. If I were forced to answer Kant's question, "How is knowledge possible?" I should say, "Because not everything can be known at once." This is an intelligible universe, in other words, because intelligence exists absolutely, that is, as an event operating among



other events. It is really a pantheistic universe that is radically unintelligible, for in such a universe God alone knows and there is nothing to know but himself. And the more I think of the old story of the "flower in the crannied wall," the more it becomes preposterous to me. It is really a burlesque of pantheism and not a statement of fact at all.

Perhaps an analogy might serve to throw light on the absolute way of being, before we pass on to the next way. Nature exists on the same pattern as *society*. Obviously there is no such thing as human society as a whole. All that exists are particular associations, particular states, clubs, friendships, and corporations, each more or less independent of, and more or less dependent on, each other. But these associations do not make up a single world-wide society. Even on the supposition that all men are brothers, most brothers would be strangers to each other. Society is possible precisely because it is local, variegated, and pluralistic. The word "society" is not a name for any thing, but is merely a universal, signifying collectively particular societies, which have a separate or absolute existence in themselves, and do not make a single society of societies. Just so, natural or absolute existence is essentially pluralistic, and though each event is spatial and temporal, these universal forms of beings do not convert existences into a universal order. For space and time are not orderly. Rather they are but the natural conditions of finiteness, individuality, contingency, and movement, which characterize events.

## II

A second way of being has already been suggested, which I shall label Systematic Being.

By the term "system," we mean to designate such things as solar systems, crystal systems, railroad systems, mathematical and logical systems, languages, sciences, sense systems, symphonies, color schemes, institutions, religions, and cultures. The mere mention of a few of the many types of systems ought to be enough to make us sceptical of any effort to "reduce" them (as the phrase is) to a single cosmic order or system. In times past when human experience was more limited and science more in its infancy, the dream of philosophers and encyclopedists, of Comtes and Spencers, to construct a single science of everything seemed less preposterous. But the more one knows history the less one outlines it; and the more one learns of the multifarious facts of nature, the less one dreams of universal laws. Nothing is more characteristic of really modern science than the tendency away from making sweeping generalizations and general *laws* of nature. The tendency is rather toward specialization, toward making working formulæ for experimental re-



search in limited fields and toward a consciousness of the enormous complexity of nature. Even the amazing generality of Einstein's equations is not indicative of a discovery of a simple and universal order in nature to take the place of the Newtonian, for these equations represent little more than an abstract correlating device, making it possible to translate one system into another; they are not indicative of any actual system of systems. They are but a tribute to the increasing difficulty of measuring nature's vagaries.

Systems may or may not exist absolutely. The solar system, for example, is itself an event in nature and as such exists absolutely. Some railroad systems are actually working, others, as we say, exist merely on paper. Certain mathematical systems are actually embodied; others are merely possible. One man sees his conception of justice actually in operation (as, for example, Emerson and his law of compensations); another is quite sure that there is no justice under the sun. But in any case, whatever systems and relations may happen to exist in nature, their systematic character represents a distinct way of being.

We therefore pass from the question of the absolute or natural existence of systems to the question of what it means to be a system. So much work has been done in this field of late that I need not stop to make the analysis here. Suffice it to say, by way of summary, that this way of being is characterized by relativity, by necessity, and by teleology. Instead of belaboring these categories, I shall immediately proceed to certain more problematic distinctions arising out of a consideration of various types of systems.

In the first place systems can not be clearly classified into physical and mental, unless that means simply a classification into those systems that exist merely as possible systems and those that exist absolutely; and of this distinction we have already spoken sufficiently. On the basis of any other meaning of physical and mental, there are elements of both in any system. Our solar system, for example, has undoubtedly existed independently of our discovery of the fact. It exists as an individual in nature; not, to be sure, as an astronomical system, for the laws which result from our particular way of measuring and describing it are relative to our human knowledge systems. Nevertheless, it is not our Newtonian knowledge system that makes the facts orderly. Orbits, planets, revolutions, tides are absolute events in this system. There is a physical order in its movements which is certainly no less objective because it can be detected by various astronomic systems and from various points of view. The solar system may enter into any number of astronomies; and that very fact is indicative of its absolute existence, independent of any astronomy whatsoever. But astronomical de-



scription of the solar system must not be confused with the events described. Nor, on the other hand, must it be supposed that the orderliness of the solar system is a product of astronomy. Rather the various orderlinesses of astronomies are a tribute to an orderliness in their common object. Hence it makes little difference whether we consider the solar system as an object in mind or as a natural object, for it is an orderly existence from either point of view. Its systematic character is revealed by both astronomy and the tides, by mathematics and by the succession of day and night. It is a rhythmic child of nature *and* also an idea in whatever minds understand its movements. It is both physical and mental, and is systematic under both aspects. To call it "neutral," as some philosophers do, is misleading. It is neutral only in the sense that it happens to be a creature of the impartial bosom of nature. But in respect to other systems it is not so much neutral as it is intrinsic. Its systematic being is not external to other systems. The solar system is intrinsically mental, physical, glowing, beautiful, tragic, perishable, and wandering—and whatever other attributes may signify the various systems in which it participates. The same is true of railroad systems, states, languages, etc.—no light is thrown on them as systems by calling them physical or mental.

Likewise it usually makes little difference to the structure of a system whether it be discovered or invented. The fact that nature makes railroads by using human brains and makes future generations by using human chromosomes is significant only from the points of view of human control, and of historical origins. Both railroads and progenies are equally natural products. As systems they must be understood and classified, not in terms of their origins or destinies, but in terms of their actual operation.

Next we must consider the distinction between mechanical and teleological systems. These terms need definition. If mechanism is identified with cause and effect systems, then any system of absolute existences or events is mechanical, and is to be understood in terms of what it does. In this sense any mechanical system has its ends or products. A machine is essentially a producer and is judged by its products. Hence a machine must be good for something, it must have an outcome, and its structure is intelligible only in terms of its products or outcome. In this sense all mechanism implies working to some end, product, or result. Nature as a whole is not a machine, in this sense, for its creativity is piece-meal. All of nature's products are by-products, as it were. Nature is not a systematic producer. Her products are infinite, formless, and endless. The products of a machine, on the other hand, must have specific characteristics and uses. A particular machine, therefore,



has an absolute individuality. The parts of a machine have a relative, systematic existence. But all machines are not ultimately mere parts of one cosmic mechanical order. Even if cause and effect categories are granted to be universally applicable, this fact does not transform nature into a mechanical order (unless "mechanism" is used in a very broad sense to cover any possible sequence of cause and effect); a mechanical order implies specific distinguishable patterns or orderliness among the causes or effects; it implies certain causes regularly producing the same products. Though it is not *a priori* impossible for nature to be such a machine, certainly the evidence we have does not point in that direction. This fact has important consequences. For if particular mechanisms were but cogs in a universal machine, they would be intelligible only in terms of their contribution to the universal operation and output; and mechanistic metaphysics would have the same general pattern as Calvinism, Spinozism, and other monistic theologies. Freedom would be possible only in and through God. But as it is, particular mechanisms can do their own work, pursue their own ends, and be understood in terms of their own particular structure and products. This makes an empirical science of ends possible, for it substitutes an inquiry into specific results accomplished by more or less independent mechanisms for the traditional science of cosmic evolution, *summum bonum*, and the transcendental, unfathomable will of God. Freedom is impossible in a mechanical world, but it is also impossible in a world without mechanisms. The discovery of mechanisms is therefore the beginning and not the end of wisdom.

When we come to the logical rather than the mechanical type of order, when the relations are not those of cause and effect, but of implication, the problem becomes more formal and the dialectics more subtle. It is not difficult to understand how a mathematical system like Einstein's may correlate two or more mechanical systems without thereby constituting a single mechanical system, but it is on the face of it inconceivable that two or more systems of mathematics, of logic, or of thought should be correlated without thereby implying a single mathematical or logical order of implication. An intelligible universe must be such that our minds can pass freely from particular to particular, and this implies, according to traditional theory, a single system of implication in which all particulars are embedded as parts: things are intelligible when they are attributable to each other; hence the world is a single system of attribution. Here let me take recourse to an analogy. Since judgment is essentially an instrument of attribution or a translating device, we may compare the logical order to a dictionary. A dictionary enables us to pass from one language to another, but the dictionary



is itself no language. It is orderly in the sense that it must follow the alphabet of the language to be translated; but the proverbial man who tried to read the dictionary found it frightfully disconnected. Just so the logical order of the universe is really a borrowed order, borrowed from the systems of cause and effect, of mathematics, of art or whatever the systems to be correlated may be, but anyone who tries to read the thought of the universe will find it frightfully disconnected. The analogy holds in another sense as well; for just as there is no universal combination telephone directory, logarithm table, and dictionary for all languages, so there is no single logical translating device for all systems. Systems are more or less translatable, more or less inter-related, but they are by no means merely various ways of describing a single truth.

In this connection it might be well to indicate the bearings of this analysis on the idea of truth. Truth is not a system, nor is it a way of being at all, except in so far as any attribute signifies a way of being. Being true is like being red, or being healthy. It is a particular attribute of ideas, just as health is a particular attribute of animal bodies. There are systems of verification and inquiry, but these are only *means* to truth, the systematic application of systems to absolute existences. The true judgments thus arrived at are systematic by virtue of being judgments, but as *truths* they are no more systematic than the objects to which they apply. Truth is a collective term for many truths. There are obviously at least as many true judgments possible as there are absolute existences; and since one and the same existence may be judged in terms of many systems, the number of possible truths is multiplied. And since every actual judgment is itself an absolute existence, the number of possible truths is seen to be infinite. But the infinite number of possible truths does not make truth an infinite system, nor does it make any particular truth infinite by nature. The science of possible truths belongs to mathematics; and the science of actual truths is identical with the sciences.

Turning now to the positive problem of distinguishing types of systems, I might venture on the following rough classification. I shall rely on several illustrations of each type to suggest my meaning and shall not attempt formal definitions.

- (1) *Mechanical* systems, for example, solar systems, atoms, railroad systems, tools and instruments, the operation of the sense organs, nervous system, digestive system, blood circulation, etc.
- (2) *Organic or teleological* systems, for example, growth, heredity, instinct, complexes, intelligence and invention, laboratories, etc.



- (3) *Social or associational systems* (that is, systems of communication or sharing)—languages, sciences, education, expressive and symbolical arts, philosophies, families, morals, laws, and institutions in general.
- (4) *Esthetic systems* (or individual behavior patterns)—taste, wisdom, and good judgment, discipline of the senses, personal techniques, etc.

I am not very proud of this catalogue and I realize that it is guilty of much cross-classification, but it may serve to indicate the general scope and types of systematic being, as I have it in mind. These types of systems, of course, do not function in isolation. The writing and reading of this paper, for example, involves the coöperation of certain mechanical arts of writing, moving, and speaking, certain teleological systems, such as organizing my would-be ideas, learning how to use the ideas of others, and how to make the worse appear the better cause; certain social systems of language, philosophy, and exposition, and certain esthetic systems of "hope, discretion, and respect." I hold no brief for the clearness or distinctness of these types of systems; they interpenetrate, coöperate and overlap.

The chief points, however, which I have at heart in sketching these two different ways of being are:

- (1) To point out that both absolute and systematic being are variegated and pluralistic.
- (2) To prove that any system presupposes a subject-matter which transcends it and that ultimately all systems are transcended by natural events.
- (3) That the orders in nature are not the essence or the final goal of nature, but themselves passing evidences of nature's verisatality.

### III

Now I come to a third way of being, which I shall label the Subjective or Qualitative way. By this is intended the stream of consciousness, feelings or emotions. Emotional states have no absolute being in nature; on the contrary they are absolutely subjective and private. They are clearly quite different from any other things so far considered. They may be said to exist in time, but certainly not in space; they are not systematic or relational, not divisible into part and whole. They do not cause each other. They are not an organic unity, nor are they atomic. They are an incommunicable flux of inner experience.

I do not mean, of course, the physical process of sensing, which is clearly an objective system. Nor the physical manifestations and



machinery of emotion. If, for example, we speak of seeing red and of being afraid as physical processes, I mean by their immediate or qualitative accompaniments how-it-feels-to-see-red and how-it-feels-to-be-afraid. Sheer immediacy. This implies no knowledge, not even "acquaintance knowledge" of any thing. Nor does it imply qualitative patterns which serve as symbol systems for knowledge. How-it-feels-to-see-red varies. The emotional qualities of seeing a red light on the rear of an automobile, seeing a red traffic signal, seeing a red sunset, and seeing a red Rubens, are quite different. They are different in part because of different meanings embodied by the red in each case. Far from being sources of knowledge they are themselves in part the effects of knowledge. Not even pure redness has a standard emotional flavor for any one person. An emotion is radically unique, irrecoverable, and indescribable. What establishes red or fear as recurrent experiences is not a recurrent emotional pattern, but recurrent stimulus-reaction patterns. Not only do I not know how beefsteak tastes to you, but I can not predict how it will taste to me next Tuesday, nor can I locate anything in my past experience and say: This is *the* taste of beefsteak. Certain analogies and adumbrations are possible, as in the case of the child who said, "Ginger ale tastes like your foot's asleep." But strictly speaking these qualities can only be felt, each in its own terms; they can not be transferred or translated.

Hence it is misleading to call them objects of anything, even of intuition. They are not even data or givens. Literally they are givings. We do not feel feelings, sense sensations, or mean meanings, or intuit essences, except in the sense that we dream dreams. We may say, to be sure, that in dreaming a dreamer dreams a dream. But no one would mistake these various parts of speech for distinct objects. The process of dreaming is a single being; the way it feels to dream is another, but neither is the object of either. They exist in totally different ways. Similarly to know objects is the same as to have meanings. But the process of knowing is distinct from the way it feels to know. One is quite irrelevant to the other.

It is astonishing that as recently as James, feelings and thoughts could be identified. The flux of feelings is so obviously different from systems of ideas, that a radically empirical thinker must recognize the distinction immediately. But tradition and polemics have wrought their evil works so thoroughly that it is now almost impossible to say anything positive about feelings, without being misunderstood. If one says subjective being is pleasure and pain, one is charged with the oversimplified psychology of classic hedonism; if one says it is consciousness, one is faced with giving it cognitive functions; if one says it is value, one merely disturbs the



philosophical hornets' nest. Nevertheless, if I could, without being misunderstood, I should try to define the subjective or qualitative way of being in terms of emotion, consciousness, and value. But in the face of current theorizing it would be easier to deny that there is such a way of being at all than to attempt to explain an identification of emotion, consciousness, and value. Consequently I give it up. Let me return to the negative definition and repeat that this way of being is characterized by its subjectivity, privacy, ineffability, infinity, incommensurability, and flux. There have been philosophers who denied the existence of any such thing, saints who sought it by fire and blood, mystics who sought it above, and gluttons who sought it below. None of these has found it, but all exhibit it. A man who turns on the light to look for the darkness is locked up as insane. Another man tries to know the unknowable and he gets a university chair. Still another concentrates all his efforts on achieving impassivity and he is worshipped as holy. All this is folly, but it bears witness to the all-pervading flux that makes us fools. Carl Sandburg somewhere describes a man who wanted to know how it felt to be corn and who spent several days and nights amid the cornstalks, sharing sunshine, wind, and rain with them; and another man, who in order to understand the teeming life of Chicago jumped into the Chicago River and soaked in its suds. There are esthetic and epistemological theories, I know, that drive one to such lengths. But when we come to our senses and learn from experience, we learn that we do not know what we feel, nor feel what we know.

## IV

Now coming to a fourth way of being, I see no *a priori* reason why there should not be a fourth, a fifth, and a sixth. Seven would make the picture perfect. But only these three have occurred to me. There is, however, a consideration which arises no matter how many ways of being may be discovered; for the question inevitably is asked: What does it mean for any way of being to be? How do these various ways of being exist with respect to each other? An apparent solution to this problem would be to set up another way of being in which these ways appear as phases of a single, ultimate way of ways. For, as Hegel might say, these ways are evidently ways of something, and this something must be a unifying principle. This way of ways might be called "transcendental being." But such a dialectics is too easy; it evades the problem. The pretended solution is really a mere label for the problem. Even dialectically it is useless, for transcendental being would be a *fourth* way of being, and the plurality would merely be increased; to say nothing of raising the problem of the relation between the fourth way of



being and each of the other three, and so on *ad infinitum* (consult Mr. Bradley).

Such a treatment of the problem involves a fundamental misconception of what it means to inquire into ways of being. It presupposes the idea that ways of being are themselves beings, a fallacy analogous to that of regarding space and time as beings, which we discussed above. Our point of departure here implies just the opposite, namely, that being is a way, a process, a coming and going. It implies that being can be described just as walking, vibrating, or knowing can. But it does not imply that there must be some single way of being. It is simply an empirical question, whether or not the specimens of being which I have selected (happening, ordering, and feeling) have a common denominator. The fact that these distinct ways of being have a common name may be an accident of human speech and knowledge rather than testimony for a single meaning of being. The fact that one man can talk about all these beings introduces at least this much unity into ways of being; but this fact is more significant for the nature of systems of knowing and talking than for the nature of the *subject-matter* of knowledge and speech. In any case, there remains the question as to an ultimate common denominator not only for the various meanings of being, but for whatever is denoted by a verb (walking, vibrating, knowing—or, say, *x-ing*). This is a separate question, perhaps more ultimate than that concerning the meaning of being; but certainly it is not necessary to raise it in an examination of this one particular verb, “to be” (not the copula, of course).

There is, however, a serious difficulty arising directly from our subject-matter. As we have pursued any one way of being, we have sooner or later come upon the discovery of its limitations. No single way of being is self-supporting. This need not surprise us, as far as being is concerned; for such a consequence would naturally be expected in a pluralistic universe. But it does put the *discoverer* in an anomalous position. He is like a searchlight that illumines many things, but finds itself surrounded by darkness. Light shines in darkness, and knowledge lives on ignorance. They are, so to speak, transcendental beings, exhibiting in one and the same act several modes of being. Usually this fact is interpreted as signifying a preternatural quality in knowledge, a mystery between the knower and the known or circumstantial evidence that both are members of a transcendental order.

But from the point of view of this paper, another possible interpretation would seem more plausible. Instead of looking upon the discoverer of ways of being as somehow transcending his subject-matter, we might put it the other way round and regard the subject-



matter as transcending its discoverer. In other words, this situation implies that the knower himself illustrates his subject-matter; that any process of inquiry is embedded in the wider processes of being; in short, as we have said before, that reason itself is a natural being. This statement, however, does not explain the fact, it merely admits it. We are here at the beginning and not at the end of a story. For if nature is of this sort, we have evidence that these various ways of being do not operate in isolation. What is true of the various types of systems, is also true of the various ways of being: they coöperate—not in the sense that they are parts of a single system of being, but in the sense that some, not necessarily all, things embody these various dimensions. The writer and the reader of this paper are ready examples of such embodiment. But we humans need not pretend to have a monopoly on transcendence, because we have a monopoly on discovery. The solar system, to which we belong, is also transcendent; so also are locomotives and dead horses, but they do not know it. Angels and mathematics are not, for they exist only in one dimension, presumably. The predicament of transcendence in which we minds find ourselves is shared by almost any empirical thing, but few things can appreciate their predicament.

To sum up, our procedure in this paper presupposes not that ways of being exist, but that "things" (*res, affari*) exist. Hence empirical "things" are transcendental to this inquiry; but given "things," we have asked of them in what ways they exist. Hence, in retracing our steps from the ways of being to the things that are, we inevitably come back to our starting-point, to a recognition that the verb "being," implies a subject, that our present inquiry presupposes an empirical subject-matter, that our problem is not to give a *raison d'être* for this subject-matter, but to describe the various kinds of contexts into which it enters. Hence for an analysis of how things are, each thing remains in itself an *a priori* transcendental unity of ways of being.

COLUMBIA UNIVERSITY.

HERBERT WALLACE SCHNEIDER.

### "A BIRD'S-EYE VIEW"

DR. SCHILLER in this JOURNAL for March 15th (Vol. XXV, pp. 155-162) asks me three "point-blank questions," and expresses the hope that I will answer them. Questions and answers are as follows.

"1. Does he really hold that the appeal to verification by experience, which clinches the doctrine of the 'Will to Believe,' leaves its logical meaning and status quite unaltered?"



I hold that it does not leave the meaning of the doctrine unaltered. It leaves it self-contradicted. To this question I replied in effect and by anticipation in both the articles on which Dr. Schiller is commenting. For instance: "these words [there quoted] admit that the belief must already have been adopted in advance of the ratification,—and that it should or may be so adopted is the doctrine of the will to believe. If he prefers to say that the proposition should be adopted, not as a belief, but as a hypothesis awaiting 'the pragmatic test,' then the word 'belief' in this sentence is out of place and he is not talking of the will to believe at all, but of the will to adopt and test hypotheses; a disposition of which no one questions the propriety, although one has still to ask whether the test to which they are to be submitted is genuine and adequate." Dr. Schiller in his last article says: "Beliefs do not at all seem to me to be assured, rigid things to be 'voluntarily embraced,' whole or not at all, and to be 'adopted' once for all. To me they seem to exhibit all shades and degrees of intensity." Of course. But *in so far* as we believe we are not leaving the proposition to be verified by future experience, and *in so far* as we are leaving it thus an open question we are not believing it. I did not enter into this in my two sentences just quoted because it seemed sufficiently implied. The will to believe, in the exact measure in which it exists, is the will not to await the decision of future experience. There can certainly be no objection to the appeal to empirical verification; the objection is to "the Will to Believe." Only the question remains, about the former, What proposition exactly is to be verified, and what experiences would really verify it?

"2. Does he contend that this verification has *no* logical value?"

This question has that curious baffling quality that for me has haunted every paragraph of Dr. Schiller's writing in these articles. How can I possibly contend that "this *verification*" has no logical value? If it is verification it has *ipso facto* logical value; logic is chiefly concerned with verification. Dr. Schiller means, perhaps, Does he contend that this supposed verification is not really such? That would depend on what was to be verified, and just what experiences were offered as the verification. There are, for example, religious facts that can be verified by experience. But it is important to see with perfect clearness what it is that is proved.

"3. Does he perchance go so far as to assert, with many apriorists, that anyhow we can learn *nothing* from experience and that it has no logical value at all?"

Why should such a question be put to me? No, I am not responsible for such preposterous folly, and I have never heard of such apriorists. We can learn, in my opinion, from experience (and its analysis) and from nothing else.



There is one other matter in his last article of which I am constrained to speak. And first let me say that the manner of argument and expression which I had suggested was due to "a holiday mood of relaxation" turns out, to my surprise, to be the practice of a professed principle of method. He writes: "I can best preface my answers by confessing at the outset that long experience of philosophical debate has rendered me horribly suspicious of too much stress on 'analysis' and 'accuracy'"; and this position he defends on general grounds. I can not forget this when I turn to certain personal details that Dr. Schiller has introduced into his last article. "It was this tormenting puzzle that incited me in 1899, when requested by Professor Miller to write a reply to his . . . article on *The Will to Believe and the Duty to Doubt*, to suggest to him privately that he had mistaken James's meaning, that led his appeal to James's decision to end in my favor, that stimulated me in 1902 to work out the empirical implications of James's theory in *Axioms as Postulates*, and that finally led me to challenge his interpretation publicly in 1927." And in an article in the *Personalist* for April, 1927, of which a copy is before me, he states (and I understand that journal to say that the paper was read to the International Congress of Philosophy): "He had, it seems, asked James to reply, but the latter had refused."

I should not be interested to lay stress on the use here of material from personal letters without the permission of the writer, but the incorrectness of the details introduced is a point with which I must briefly weary the reader, though they have but the slightest importance, except as an example. It is not the case that I had asked Mr. James to reply; such an idea had never entered my mind. Nor did I make an appeal to his decision, for I had no doubts as to his meaning, and had, moreover, just had a renewed elaborate (and very kind) exposition of it. Before I heard from Dr. Schiller I had sent proofs of my article (it had gone to press) to James and he had returned them with many marginal comments; I had annotated his comments in turn and several further long letters on the subject had been exchanged. Dr. Schiller probably has in mind the fact that I sent his letter to James, which I did because its strong espousal of James's position would be gratifying to him. I suggested to Dr. Schiller and also to the late Dr. Marshall (who complied with the suggestion) that they should write replies to my article, because to my keen regret James appeared somewhat hurt by it,—and one particular paragraph in that article should not, I now think, have been included. I thought that vigorous answers from them, to which I intended to offer no reply, would also be gratifying to him. Perhaps to one who is "suspicious of too much stress on 'analysis'"



and 'accuracy,' " the quoted misstatements of fact will appear a trifling matter.

The present controversy itself I find it difficult to continue. With one general remark and two illustrations of my difficulties I shall conclude. The remark is that when a critic pleads that a philosopher is using certain terms for the connotation that they carry in most people's minds and yet fails to note that that connotation demonstrably does not belong to what he himself is bound to mean by the terms, it is not a sufficient reply to say, "You and I are using the words in different senses." That is indeed true and was part of the point. But the appeal was based on the fact that there is a usual sense, that in that sense the philosopher's terms are understood and meant to be understood, and yet that what he really implies in using them is incompatible with that sense. I apply this remark to the words "creation," "freedom" (besides numerous others) as employed by Dr. Schiller. And the argument to prove its pertinence is to be found in both my articles on which he has commented. This argument he has from the first ignored. Why should he speak of one of my positions as "a tormenting puzzle" whose answer he for many years "yearned to know" when my present explicit representations on the same and other topics he slurs over and gives evidence of never having carefully read? Dr. Schiller courteously, but in the circumstances somewhat enigmatically, expresses respect for my judgment. I am honored, and heartily recognize his good nature. I even wish that good nature might have extended so far as to prompt him to a close examination of the reasonings in question. In fact, I can not help conceiving the wish that he could have transferred the respect he so kindly expresses, if it carries with it any degree of attention, from my judgment to my arguments. I endeavor in philosophy to base the former upon the latter.

The first illustration of my difficulties is as follows. "So I can not agree that 'when something is a fact it is a fact.' I want to know *when* that is, and wonder how Professor Miller knows. And I fear that the apparent tautology is a booby-trap. For, alas, when a thing is *called* a 'fact' it very often is not a fact. Which is why in actual use the law of Identity is so tricky. *All 'A' is A* is grossly false, *All A is A* is meaningless. And so far from taking for granted the identity of a thing with what it is called, all science labors unceasingly to turn 'fact' into fact."

On this extract no comment is offered. It speaks sufficiently for itself. I am not ignoring it; I have scanned it most carefully.

The other illustration I shall present with punctilious, not to say tedious, fulness. In the issue of this JOURNAL for November 10th last (XXIV, pp. 617-624) I wrote as follows:



"1. The first term in question is 'premises.' Dr. Schiller writes: 'I was therefore extremely interested in what he said in his . . . review of Professor Bixler in this JOURNAL (XXIV, No. 8), and agreed cordially with his premises. I agree that James "is the most important and the most valuable figure in American philosophy" and that Professor Bixler has written an excellent book about him. But I am the more puzzled by the conclusions he draws from these premises and do not see how they can logically be arrived at.' Does Dr. Schiller really conceive that the opinions of James and of Professor Bixler's exposition that I expressed in the same article are the *premises* of my arguments as to the will to believe and free will, that the conclusions presented on those subjects were drawn 'from these premises?' I am dumb with amazement. But no, no, it is mere hasty writing, he meant it for the moment, but he *would* not mean it, his thought is only slipping a cog or two, like that of the reporter whom James quotes as writing, 'The birds filled the tree-tops with their morning song, making the air moist, cool, and pleasant.' And the reader can as easily glide over the mistake in the one case as in the other."

On this Dr. Schiller comments: "I do not apologize, therefore, for what Professor Miller considers my 'minor' inaccuracies. When I called his appreciation of James and Bixler 'premises' to his conclusion that, nevertheless, James was worthy of condemnation, in 1927 as in 1899, I was taking a bird's-eye view of his argument, and was not trying to dissect it into a series of syllogisms."

What is here said is in effect that appreciative remarks about aspects of an author's work and of his expositor's are the *premises* of subsequent exceptions taken to the former work. It is quite a new thought to me that the relation of conclusions to premises may be expressed by the word "nevertheless," and that a bird's-eye view is one in which the general relations of things become not more, but less clear, in which the broadest, the most flagrant of distinctions swim in vagueness and are imperceptible. It was not the birds but the reporter who was responsible for confusion. But morning song inspired by a view of things such as Dr. Schiller attributes to a bird, and so constantly emulates himself, does for me make the air of controversy misty, bewildering, and unbreathable. As I do not know how to contend with such methods of vision there is nothing for it but to desist.

There I stopped, and sent the article to the JOURNAL. But now I add a paragraph. The fundamental difference between Dr. Schiller and myself is ethical. He has the best possible right to his ethical convictions, and I have a right to mine, which on this subject I now



express. Care and conscience in the use of words, in attention to the steps of reasoning, in seeking to understand the ideas and reasonings of another, these belong to the morals of the mind, because on these depend the truth of thought and its value for human life. It is the relative lack in us, one and all, of this care and conscience to which we owe the low grade of development of philosophy as a science, the absence of consensus about anything except the place and hours of meeting of associations for continuing discussion, the mutual misconceptions and want of eager interest in true mutual conception, in a word, the chaos that prevents philosophy from offering as a science any of the recognized guidance so sorely needed by mankind.

DICKINSON S. MILLER.

### BOOK REVIEWS

*Political Pluralism. A Study of Modern Political Theory.* K. C. HSIAO. (International Library of Psychology, Philosophy, and Scientific Method.) New York: Harcourt, Brace and Co., Inc. London: Kegan Paul, Trench, Trubner & Co., Ltd. 1927. Pp. viii + 271.

This book is a systematic criticism of political pluralism from the point of view of Hegelian idealism. As such, it is well executed. That one should defend an alien tradition in an alien tongue so subtly and engagingly as does Professor Hsiao is remarkable. Indeed, it is no inconsiderable feat. Furthermore, the book is not only well written, but it is mechanically as perfect as the fate which governs printing and proof-reading will allow. The present writer noticed but three typographical errors.

The first two chapters discuss "Pluralism and Law." The theories of Duguit and Krabbe, then of Gierke, Laski, Cole, and the Webbs, are reviewed under the subtitles of *Legal Theory*, *Constitutional Law* and *International Law*. The third chapter takes up functional representation in representative government, specifically in relation to the composition of the electorate, of the legislative assembly and of the parties in a state. The next chapter briefly adverts to the administrative decentralization program of French syndicalists. Chapter Five considers the problem of the relation of economics and politics with especial reference to Hobson and Cole. The two following chapters criticize the position of pluralism in reference to sovereignty, the doctrine of the common will, and the question of change and stability in political organization. Chapter Eight is an attack on the "philosophical background" of pluralism, i.e., the radical empiricism of James. Chapter Nine is an effort to



restate the idealistic doctrine of "the state as an ethical ideal," and the concluding chapter summarizes historical movements in political theory, again emphasizing the point that Hegel was right.

Indeed, one is tempted to say that the whole moral of Professor Hsiao's story is just that: Hegel was right! All the pluralists, in his opinion, turn out to be more monistic than they popularly are thought to be. Duguit is a monist (p. 16); Krabbe also turns out to be monistic in his position (p. 31). After discussing Cole, Laski, and the Webbs, our author says, "we may still remain political monists" (p. 77) and yet accept functional representation. As regards the syndicalists "so long as an ultimate delegating authority is not denied . . . we are still adherents of the traditional monistic theory of the state and sovereignty" (p. 97 f.). "Whatever may be the avenue of approach . . . the final outcome of the pluralistic argument is, in every instance, not multiplicity as such . . . but some unity that transcends and points beyond mere multiplicity" (p. 127). Again, "when pluralism sets out to prove that there is no ultimate authority in society, and that there should not be such authority, it proposes a task which cannot be accomplished" (p. 139). This monistic emphasis is characteristic of the book, once emerging as a statement of faith in a political class-of-all-classes, even though it does not exist. "Ought we not to endeavor . . . to bring unity nearer to us?" asks our author; "even if unity is an ever-receding goal, our social prospect would become brighter by striving toward it than by remaining in a state of pluralistic incoherence" (p. 174).

Professor Hsiao then attacks the pragmatism of James. This, he says, is a sort of "cosmic republicanism"—a carrying of self-government into metaphysics, and is "by far the most audacious piece of anthropomorphism ever attempted in modern philosophy" (p. 193). Again, ironically, "The Absolute-Bastille shattered; the all-absorbing monarchical God dethroned; liberty for all; Year One of the Universe Republic; inauguration of the cosmic Reign of Terror, with Professor James in the rôle of the prophetic Rousseau and Mr. Laski as the irresistible Danton. . . ." But even James, after all, was a monist! For in spite of his empiricist partisan spirit and unconscious borrowings from idealism which defeated the reconciliation he desired, he anticipated vaguely the "concrete monism" which "certain idealists have attempted to develop" (p. 205).

But this is only half the story of *Political Pluralism*. Not only do the pluralists turn out to be monists, but also, *mirabile dictu*, the monists turn out to be pluralists! Hobbes and Bodin were pluralists at heart (p. 128 f.). And, although "we can and must regard sovereignty, in its theoretical totality, as supreme and unlimited,



... actually, of course, such a complete synthesis of the various aspects of sovereignty never exists" (p. 135). This last is a candid admission, by the author, of the *fact* of pluralism. But Hegel also was a pluralist. In the chapter on the state as an ethical ideal, which is a rendering of the *Kulturstaat* idea, Professor Hsiao says, "The pluralistic state thus understood bears a true resemblance to the monistic state as defined by the ethical philosophers, particularly by Hegel. It is probably not too far wrong to conjecture that Hegel himself would be willing to approve of the pluralistic theory in general."

Professor Hsiao is not merely an apologist. He is trying to effect a sane theory of the state by reconciling traditional doctrines. But the traditional baggage is almost too much for him. In some excellent passages, pp. 140-145, he skirts the edge of the real questions at issue. When he says that the pluralists have missed the "logical point of the monistic theory," he is right; the immanent dialectic of idealism is not even seriously discussed by them. They have resorted to metaphysics not for debate, but for support, and they have found it in the pluralistic emphasis. The real issues among political theorists are posed by their divergent *objectives*. The fundamental problems of politics are not crucially concerned in any metaphysical problem of monism *versus* pluralism. As Professor Hsiao says (footnote to p. 145), "a true theory must be monistic as it must be pluralistic." But he does not develop the point. He might have added that all subject-matter is presented as *individuality-in-continuity*, and if the individuals are stressed, in any system, pluralism results. Likewise, if the continuity is emphasized, monism emerges. Politically both contemporary pluralism and monism have been logically correct in what they have asserted and incorrect in what they have denied. There is unity, and there is plurality. The opposition of the two is gratuitous; stated in their barest and most formal shape the two doctrines are truisms. The antithesis between the two is not a "problem" to be "solved," but one to "get over"!

Practically, however, pluralism is a number of different things. *Political Pluralism* points out many of the divergencies in theory. It fails to bring out, however, that the significance of their proposals, the acceptance or rejection of them, is a question involving a judgment of the desirability of the concrete consequences of those proposals. And the same is true of "monistic" proposals. All political thinkers are at bottom utilitarian, though the bottom may be well disguised. In the absence of a developed social science men will speculate and picture imaginatively what they feel ought to be. It is the business of the political philosopher to criticize these specu-



lations—to see the bottom, so to speak, and make possible something better than mere conservatism or mere radicalism. We do not need faith, we need vision. What do the various proposals, “pluralistic” and “monistic,” mean in the concrete situation? To answer that question is to import enlightenment, i.e., to make possible a choice of a course of action in terms of its consequence as weighed against the consequences of alternative policies.

Looked at in this way, what is involved? Monism has stood for the national state, as in Bosanquet, in spite of its concessions, since the war, to internationalism. It is interesting that Professor Hsiao at no point discusses internationalism (excepting Krabbe's position). One would think that a good illustration of the inadequacies of a merely pluralistic method of procedure might be found on the level of international affairs in the events leading up to the World War. Does political monism mean international consolidation, or not? If it does not mean that, is it an endorsement of the irresponsible sovereign national state of the nineteenth century? The fact is that political monism is embarrassed by the catastrophe of the World War, although its adherents may talk as though they were not. The *Kulturstaat* idea no longer has the ring of reality, in spite of idealistic reaffirmations. If the idealists want to present a real alternative to political pluralism, let them stress internationalism; the primary anarchy of today is international. Adjusting mechanisms should exist in situations involving conflicting interests, and these may be pyramided into World Courts or world governments. Since the idealists have not done this, or done it but grudgingly, and in spite of Hegel be it noted, they tacitly stand as defenders of an “ethical ideal” which recently has led millions of men to horrible suffering and premature death!

The pluralists, by way of contrast, are aggressive and, in many instances, very clear-eyed as regards their objectives. Many of them agree in theory while differing in purposes. Others differ in theory although agreeing, in the main, regarding their aims. Hobson, e.g., calls the state the custodian of “spiritual” interests, while Cole would regard the present state as composed of consumers. (In criticizing the Guildsmen, Laski once humorously asked this question, “In time of war does the citizen fight as a spirituelle or as a consumptive?”) The Webbs would have two parliaments, Laski one. So the overt divergencies run, though the real cleavages in purpose do not always follow the verbal contrasts. All the attacks are delivered on the sovereign national state and aim at shifting the focus of social authority within or without the nation-state in such a way as to attain the objectives of the individual or group making the attack. Figgis wanted his Church to have more power; the



French syndicalists would shift authority into the hands of the *fonctionnaires*. The Guildsmen seek a reordering of political structures which will enhance the authority of the labor unions. Both Duguit and Krabbe have a "natural law" method—one in "solidarity" and the other in his "*Rechtsgefühl*"—which in operation would enhance the position of lawyers and judges. But is it expedient to enhance the political power of labor unions? Should the Church become the custodian of morality, e.g., by assuming jurisdiction over divorce? Should legislators, territorially elected, be supreme in authority, or should lawyers and judges assume greater powers in the social order? How far can and should nationality be divorced from political structures? Should greater administrative autonomy be given the civil service? To what extent should responsibility be legally imposed? How far should political structures be held responsible morally for the acts of their agents? These, and a host of other questions, are posed by contemporary pluralism. Some of them are well discussed by Professor Hsiao; others remain unanswered.

The concrete questions of policy which arise in each generation must be answered by that generation. There is no mathematically precise system of politics which is true, *überhaupt*, forever. The policies which should be pursued are ascertainable only in terms of the structures which exist in the given situation. The ways in which human interests can be organized are indefinite in number and kind. Self-government must begin in the local community and be achieved progressively at every level in political organization by every generation. In any age one level of organization may demand centralization while another needs decentralization. Our author errs, with many other political thinkers, in being a bit too doctrinaire. *Political Pluralism*, however, is a very stimulating work, worthy of the careful attention of every serious student of political theory. It is the best contemporary statement of the idealistic position.

PAUL W. WARD.

SYRACUSE UNIVERSITY.

*Present-Day Thinkers and the New Scholasticism. An International Symposium.* Edited and augmented by JOHN S. ZYBURA, with an introduction by the Very Rev. JOHN CAVANAUGH. St. Louis: B. Herder Book Co. 1926. Pp. xviii + 543 pp.

Doubtless, since statistical analysis has been applied to so many and so diverse inquiries, the method adopted in this book should not seem incongruous. There are detailed in it the results of a canvass of the contemporary philosophical situation with particular reference to Neo-Scholasticism. In Part I are given the replies of British



and American philosophers to a questionnaire on the attitude of non-scholastic philosophers toward Scholasticism and Neo-Scholasticism, on the reasons for the unfriendliness and indifference of some, on the possibility that the New Scholasticism may make valuable contributions to the solution of present problems, and on the prospects of a *rapprochement* between it and other currents of modern thought. In Part II ten eminent Scholastics of Europe and America expound the nature, aims, and methods of the movement. In Part III Dr. Zyburia undertakes to explain anew the circumstances of the decline of Scholasticism that it may be seen to be a consequence of no weakness in the philosophy. What is persistently disturbing throughout is that there should be so little philosophy in the defense of a philosophy and that there should, on the other hand, be so much psychological, sociological, and historical conjecture.

The opinions of Part I are in many instances interesting statements of reactions, but despite the attempt which is made by the editor to summarize at the end of them the consequences of this inquiry, it is difficult to find any single philosophical conclusion; it is even difficult to know what conclusion could possibly be expected. There is an increase of interest in the Middle Ages; there is no prejudice against Neo-Scholasticism; and if Neo-Scholasticism has a contribution to make to modern philosophy its contribution will be welcome.

The ten essays of Part II, explanatory of the principles and methods of Neo-Scholasticism by its own exponents, are illuminating in another direction. Where they set forth the contributions and publications of Neo-Scholastics in the countries of the several writers, they contain a great deal concerning developments in Europe that should be better known to Americans; in this respect the essays of Dr. Grabmann, Professor Noël, and Professor Olgiati are of particular value. Clearly if there is to be propaganda in philosophy its effective method must be in such retailing as this of philosophic consequences.

But it is not entirely clear what the purpose of this book and what the direction of the movement it heralds may be. Much of the argument seems to depend on the fiction that there was a unified philosophy of the Middle Ages—or at least of the thirteenth century—and that that philosophy expressed a truth—or the Truth—which has since been obscured and to which it is wise now to return. To be sure, some of the contributors have the caution to qualify their statement of the perfection of the harmony that was established in Scholastic thought. But the editor has no hesitation—"It is beginning to be realized," he says (page 100), "that Scholasticism is a complete system—a compact, well-knit, well-rounded-out whole."



And Professor Noël brings De Wulf to the support of that doctrine (page 234)—“The central thesis which he has constantly defended is that there existed in the Middle Ages a current of dominant thought joining the principal doctors into one school, of which St. Thomas is the apogee, and which rallies around a common philosophic system.” This, one suspects, is a doctrine to be traced rather more surely to nineteenth-century than to thirteenth-century materials; certainly few of the protagonists to which it is applied express definitely what is so translucently stated in the encyclical *Aeterni Patris* of Pope Leo XIII. One thinks, of course, of the fine unity of thought the century displayed in its contentious discussions of the relation of faith and reason, the nature of knowledge, particularly in what concerns abstraction and illumination, the possibility of *a priori* proofs of God, the eternity of the world, the unity or plurality of substantial forms, the unity of the active intellect. Surely the splendor of the thirteenth century is precisely in the circumstance that there was perhaps more difference of opinion in it than in most centuries; the nineteenth century, with its disputes consequent to the discoveries in biology, suggests a worthy comparison to the thirteenth, with its disputes consequent to the reintroduction of Aristotle. To lend color to the similarity one has only to recall Albert’s complaint of his opponents even in the Dominican Order, or run over the history of Aristotle’s fortune in the University of Paris from the prohibition of the reading of his works by the Council of Sens in 1210 to his final reinstatement by papal authority in 1366, or read Roger Bacon’s frequent and uncomplimentary references to Alexander of Hales, Albertus Magnus, and Thomas Aquinas, or consider the disputes concerning the mendicant orders, or reflect upon the Averroist controversies and the condemnations of 1270 and 1277, or consider Thomas’s part in those condemnations, and add Bacon’s own statement concerning the dangerous doctrine of the active intellect, the attitude of Bonaventura and Peckham toward the doctrine of the unity of substantial forms and the attitude of Stephen Tempier and Robert Kilwardby, or, in a word, of the entire Franciscan Order, toward the whole Thomist philosophy and set down, to balance that, Thomas’s ironical treatment of his adversaries, who are clearly the Franciscans, in the *De aeternitate mundi contra murmurantes*. But surely these must be truisms, since William of Tocco has insisted so much and so long ago on the novelty of Thomas’s teachings, and if they are truisms, twentieth-century Scholastics have undertaken a difficult task in their search for a single philosophy in men who thought themselves so much at variance.

To the unity of Scholasticism, moreover, the editor of this work sets in complementary and damning contrast the diversity of the



Renaissance. As early as page 375 that diversity is illustrated in some of the outstanding figures of the period, but not until page 422 does the precise contradiction emerge—"For within the very bosom of the new movement there was a violent clash of two diametrically opposed tendencies and programmes, the one radically pagan, the other essentially Christian." This is too melodramatic. Moreover it is unnecessary; after a single philosophy has been found in Bonaventura, Aquinas, Grosseteste, Bacon, Duns Scotus, and Ockham (Dr. Ryan takes Ockham to the credit of Scholasticism, on page 351, though other contributors seem to repudiate him), it should not be difficult to find a similar unity in philosophies like those of Nicholas of Cusa, Pomponazzi, Zabarella, Telesio, Campanella, Bruno. But then it should be possible to do a like service even for modern philosophy—it would be, one supposes, the philosophy taught by Descartes, Spinoza, Leibniz, Hume, Kant, Hegel, James, and others. And the service would be no less deadening to inquiry in either of these periods than the like service is to Medieval thought.

One further historical fiction is needed to complete the cycle. It is distressing that in a book devoted to celebrating a saner interpretation of the thirteenth century, the fourteenth and fifteenth centuries should be condemned to utter sterility. But beginning on page 440, it is all explained—discords, ignorance, enervation of discipline, dissolution of morals grew apace as a consequence to the Babylonian Captivity and the Black Death. This smacks of an historicism like that which Scholastics condemn justly in modern criticism. If there was a philosophic decline after the thirteenth century it should be possible to illustrate it in philosophic doctrines. Doubtless philosophers of the later period were not untouched by the events recounted—the Babylonian Captivity was ended in part through the efforts of two excellent philosophers, Peter d'Ailly and John Gerson, and the epidemics of the fourteenth century carried off a large number of philosophers, among them men as distinguished as Robert Holcot, Archbishop Bradwardine, John Baconthorp, and Gregory of Rimini. There were others too, yet the philosophy of these men and of their contemporaries is passed over summarily in large generalizations based entirely on secondary sources. Perhaps there is need for a questionnaire to go into the causes of the prejudice and indifference to the philosophy of the fourteenth and fifteenth centuries, and that questionnaire should ask, among other queries, why none of the works of Ockham, save the political writings, have been published since the seventeenth century.

That the philosophy of the Middle Ages is worthy of much more interest and study than is now accorded it, that modern discussions are confused in many questions on which Aristotle and Thomas



could shed light, neither of these contentions is to be questioned. But there is no ground for the supposition that all truth was enunciated in one period of history and that wisdom thenceforth must consist in a cautious conformity to the general principles then stated. It would be too bad if the Neo-Scholastic view is to condemn its adherents to go over the history of philosophy to the unique end of reproaching each Alexander for not being an Aristotle, each Durandus for not being a Thomas, each Buridan for not being an Ockham. If that is the moral, the Neo-Scholastic reading of the history of philosophy has departed from the Scholastic manner. Bonaventura held that it is profitable to seek out the intention even of philosophic views that seem false. "*Non enim decet iuniores antiquorum aspernari sententias, sed humiliter venerari et fideliter explicare; quia non est credendum, quod magni amatores et inquisitores veritatis celebres positiones suas dixerunt sine causa; in omnibus autem dictis praecepue causa dicendi consideranda est. Nam quod superficialiter videtur falsum frequenter invenitur verum, cum pertingitur ad intentionem dicentium.*"

But more important than questions of history and historical justice is the conception of philosophy which emerges from this book. How truth may be served by the solicited opinions of men concerning a movement of which they have no special knowledge and of which they have therefore no competence to judge, is not easy to understand. That philosophic discussions might be improved by an intelligent opposition to naturalism and immanence is intelligible and even probable, but one must question the supposition that the philosophic millennium will have been reached when all philosophers will give glib text-book answers to all questions. Philosophy is not a disciple in which competence consists in an ability to repeat right answers. The history of thought suggests that progress has come in the interchange of repeated analyses and even in the simple shift of metaphysical subject. There is even the possibility that there is no proper subject and there are no right answers, but that possibility in no wise threatens the illuminations which great philosophers have shed on questions that may be considered still unsolved. The great Scholastics and Neo-Scholastics have, whether they would or not, fitted themselves into the history of that interchange, and one is led to suspect that the contribution of the Neo-Scholastic, which has been an important one, as philosopher no less than a historian, has been valuable in the degree that he remembered he was a philosopher or an historian and forgot he was a Scholastic.

There are a few unfortunate slips of translator and proof-reader in the book. There is no reason for not translating Matteo d'Ac-



quasparta and Walther von Brügge, and Bonaventura has better sanction in English than Bonaventure.

RICHARD MCKEON.

COLUMBIA UNIVERSITY.

### JOURNALS AND NEW BOOKS

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Burloud, Albert: *La Pensée Conceptuelle*. Essai de Psychologie générale. (Bibliothèque de Philosophie Contemporaine) Paris: Félix Alcan. 1928. 412 pp. 35 frs.

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Hazan, S. Z.: *Realism*. An Attempt to Trace its Origin and Development in its Chief Representative. With a Foreword by J. A. Smith. Cambridge: At the University Press. 1928. (American Agents: MacMillan Co.) 333 pp.

Joël, Karl: *Wandlungen der Weltanschauung*. Eine Philosophie Geschichte als Geschichtsphilosophie. 1 Lieferung. Tübingen: J. C. B. Mohr, (Paul Siebeck). 1928. 160 pp.

Kroner, Richard: *Die Selbstverwirklichung des Geistes*. Prolegomena zur Kulturphilosophie. Tübingen: J. C. B. Mohr (Paul Siebeck). 1928. viii + 225 pp. 14.50 M.

Van der Leeuw, J. J.: *The Conquest of Illusion*. New York: Alfred A. Knopf. 1928. 234 pp. \$3.50.

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Professor Sterling P. Lamprecht of the University of Illinois has accepted an appointment as Professor of Philosophy at Amherst College.

Dr. Arthur E. Murphy, of the University of Chicago, has accepted an appointment as Assistant Professor of Philosophy at Cornell University.



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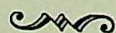
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# THE JOURNAL OF PHILOSOPHY

## THE MEANING OF MEANING IN HOLLINGWORTH'S THE PSYCHOLOGY OF THOUGHT

PROFESSOR H. L. HOLLINGWORTH has placed the reviewer of his analysis of meaning in a very advantageous position. If the reviewer's treatment is woefully inadequate, or even if it presents merely irrelevant details, yet Professor Hollingworth must remain silent and agreeable. Has he not himself defined meaning in precisely such terms? And will he refuse to live by his definition when it comes to a meaningful description of his own position? Thus we may put on a bold front as we go forth on our hazardous way. But even a warrior armed with such a sword must be watchful, and in the battle of wits beware lest the approach of drowsiness or the far-fetched substitutions and puns of that dangerously wasteful ogre, sleep, overpower him. So we must not catch even a catnap on our expedition, lest in our dreams the nap turn into a trap and catch us.

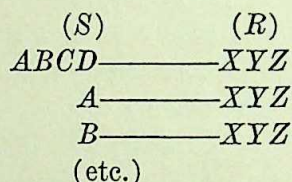
So, leaving fantasy-formation aside, let us start with a provisional, general definition of meaning. For Hollingworth, meaning is a type of behavior where a present stimulus, which has previously functioned as a part in a larger stimulus, calls forth the same response that the larger, total stimulus previously gave rise to. This is what Hollingworth calls "redintegrative sequence." "A complex antecedent, *ABCD*, instigates a consequent, *XYZ*. . . . Thereafter, if it occurs that the consequent *XYZ*, or one belonging to the same class, is instigated by detail *A*, or a detail belonging in the same class, by virtue of the historic participation of *A* in the situation *ABCD*, we have a case of meaning. The fact of meaning is the determination of *XYZ* by the previous context of *A*. Meaning is thus a function, a dynamic relation; it consists in the part-whole efficacy of *A*. Meaning is the fact of redintegrative sequence" (pp. 213-214).

Let us look somewhat more closely at this definition. In the first place, meaning is one kind of sequence. There are, Hollingworth tells us, two kinds of sequence. One is the sequence of natural events, the other is the redintegrative sequence. In the former, the consequent arises only when all or a certain minimum of necessary aspects of the antecedent are present; in the latter, any detail of the antecedent may set off the total consequent. Natural se-



quences are thus quite fixed, but sequences of meaning present the characteristic of wide variability; "... the 'physical' event follows certain particular details of a context, and them only, whereas the animal and human adjustment [the redintegrative sequence] is to the total antecedent context, any detail of which may thereafter be effective" (p. 203). Hollingworth does not say that meaning is restricted to animal and human behavior (to *S-R* units), but this seems in general to be his view. We should, however, point out in passing that not all human behavior is meaningful; some of it takes place on the natural sequence level.

Meaning, then, is a form of behavior characterized by a substitution of stimuli. But these stimuli must not be viewed as merely external and foreign to each other. Rather, the original stimulus must be a complex whole and the substitute some part thereof. Let us diagram it:



This differs from the conditioned reflex in that the first response is to the total stimulus, and the stimuli that later come to be substitutes do not gain their efficacy by occurring simultaneously with some other, primary or proper stimulus, but by the fact that they were originally a real and necessary part of the stimulus. Furthermore, redintegration is not restricted to what may properly be called reflexes. Nor does it depend upon repetition, but often functions effectively the first time a partial stimulus reappears.

The reaction in a case of meaning need not be overt, muscular adjustment, though it may be. It often takes the form of words, attitudes, symbols, reports, or conscious experiences. Hollingworth presents three levels of meaning on the basis of the type of response involved. "1. On the postural level meaning is concerned merely with our conduct, our overt behavior and actions. . . . I understand or know the meaning of a carburetor, a lock, a stove, when and in so far as I can handle it" (p. 228). "2. On the autonomic or affective level I know meaning when I get the appropriate feelings, attitudes, and emotions" (p. 229). "3. Intellectual or cognitive meaning is the presence of an appropriate context of concepts, images, references, relations, notions, ideas, associative tendencies, and, in many cases, of appropriate naming responses and of varied secondary meanings" (p. 229).

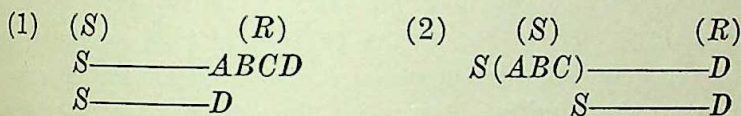
In general, Hollingworth is consistent in applying the part-whole relation to stimuli only, but in a very interesting passage



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(pp. 224-228) he finds himself brought face to face with the question whether this relation is not true of reactions, also. That is, may not a later, partial reaction act as a substitute for an earlier, more elaborate, total response to the same stimulus? "In this way the constant or repeated stimulus *S* leads originally to reactions *A-B-C-D*, but finally it leads only and directly to *D*" (p. 225). Hollingworth seems loath to call this, as it stands, meaning. However, he does present a tentative shift of the part-whole efficacy from the reaction side to the stimulus side. I am not sure that I understand him, but he seems to argue thus: Let the omitted parts of the reaction be treated as a part of the organism, a modification of the reagent. Then treat at least so much of the organism as a part of the original, total stimulus. Now let this part of the stimulus drop out, and *S* functions redintegratively for the whole. The following may serve as a diagram, (1) being the ordinary view of a telescoped response and (2) being Hollingworth's interpretation:



I see no objection to this contortion. It seems to prove, however, not so much that all part-whole efficacy is restricted to stimuli as that the distinction between stimulus and response is quite arbitrary and can be shifted at will in any given case.

So far, we have stressed the idea that meaning is a form of behavior, and hence must be dealt with in terms of stimuli and responses. But we must now emphasize that meaning is a particular type of *S-R* relation, one involving redintegration. The present, partial stimulus functions vicariously for its former whole. Let us inquire into this vicariousness.

In meaning, a part functions for a whole. Sometimes Hollingworth seems content to leave the matter there, and not add that the part functions for the whole by instigating some further reaction. In fact, we are at times left with the impression that meaning may be simply the reference a part bears to its whole, or to other parts in a common whole. "The redintegrative account of meaning applies even to natural signs or natural laws. Three equal angles mean three equal sides, in a triangle. This, we may suppose, is a case of 'logical implication,' or 'geometrical necessity,' or 'matter of fact,' or 'association of ideas,' as one may prefer. But no matter what vocabulary is employed, the simple fact is that 'three equal sides' is *part of a total* which includes 'three equal angles'" (p. 230). "In this way fire means smoke, sand in the sugar means broken teeth, a north wind means cold weather" (p. 231). "When



one end of a tiltboard is elevated, the other is depressed. The elevation becomes a sign of the depression. . . . The syllogism in this case rests merely on the nature of a rigid body, and inference from one detail is only taking the one as the sign of the other, or of the whole" (pp. 231-232).

The sign or symbol, then, is always incomplete. Often it is a mere detail, quite irrelevant to the essence of the whole that it means. Chance association, superficial resemblance, are bases enough for its becoming a surrogate. "What we call traces, or images, or thoughts, of objects and events are distinguishable from the originals which they mean only by their incompleteness" (pp. 235-236). "It must, however, be noted that the detail present in thought may not be a very conspicuous detail of the immediate perception of the historic event. It may instead be a trivial and accidental detail, even what we call an 'associated' detail, such as a word, a gesture, an attitude, a specific feeling, an imaged article of clothing. But any and all of these were part of the original event or situation" (p. 237).

Nevertheless, our author seems to realize that symbols may occasionally be true wholes themselves, as complex as, or even more complex than, the wholes whose place they take. Here the vicarious nature of meaning is not so much a part-whole relation as a confusion or substitution of two wholes on the basis of partial identity. "Within the content of the drowsiness fusion or hallucination, a present impression, a perseverative tendency, or even a pure memory element often substitutes itself for some other datum, whose rôle it fills in the perceived composition of the hallucination. The various types of substitution or the varieties of surrogate are interesting because, however different their origin, they are all capable of assuming a vicarious or substitute rôle" (p. 55). "For rough descriptive purposes the phenomenon we here called 'substitution' might instead be indicated by the simpler term 'confusion.' Situations, objects, and facts, having some element or feature in common, are confused with one another, much as children mistakenly identify objects possessing some common element. . . . Not only are situations and events 'confused'; they also, as a result of this confusion, take the place of one another in the forward movement of association and action that constitutes thought" (p. 57). In speaking of the meaning of a dream where the subject's tossing in bed became a process of sewing seams in a garment, Hollingworth says, "Here it seems clear that the substitution of one experience for another, because of their several points of agreement, was the basis of the dream" (p. 95). This might be expressed in the following way: a complex experience, *MCNO*, becomes a symbol or substitute for another complex experience, *ABCD*, on the basis of the common feature



C. This is certainly a case of vicariousness, but whether it could also be termed redintegration might be questioned.

Before leaving this matter of vicariousness in meaning, we should touch upon Professor Hollingworth's treatment of images. He holds that there is no truly imageless thought. Yet the doctrine of imageless ideas or meanings was the natural outcome of a false view of images in their relation to meaning. This false view held that an image, to be a symbol, must duplicate or copy the original experience to which it refers. Hollingworth insists that it need not, that it usually does not. All that is necessary is that the image, no matter how irrelevant, function vicariously for that which it means, on the basis that it has previously been a part of this latter (although, perhaps, a very insignificant part). "Thoughts are not copies of situations, but fragments of them" (p. 208).

In fact, symbols do not need to be images. The essence of a symbol is its vicarious functioning, and not its psychic reduplication of the original. Thus the symbol may be *any* kind of event or experience that so functions. "Thoughts are events of any sort whatsoever that function for larger antecedent contexts; they are not mysterious phenomena belonging to a supernatural realm [as images have often been conceived]" (p. 208). "Revived processes of almost any sort whatever, or even present incoming impressions, may vicariously function as standard-bearers for any intellectual exploration that may be in progress at the time. Thought may then never really be imageless, nor will it necessarily move in terms of a rigid photographic sensationalism. Thought must have garments, it is true, but it need not rely on its own providence. It is amply served by the charity of the passing moment,—by the vicarious functioning of irrelevant sense content" (p. 148).

In his discussion of the pure relations of imageless thought, Hollingworth is led to treat meaning from the standpoint of relations and terms. This leads to another, and perhaps not wholly coherent, aspect of his meaning of meaning. In general, he is controlled by the assumption of the externality of terms and relations. Sometimes it would seem that the meaning is the relation (which is non-sensory, yet is an immediate, natural event), whereas the symbol is the two poles which bear the relation, and which may be almost any sensory or imaginal experiences; "... the vehicle of a waking meaning, the two poles of a relation, may be fragmentary, transitory, and only remotely relevant. . . ." (p. 144). "Most, if not all of our thinking, is of relations, *by means of* related symbols" (p. 151). But it is also true that terms may be the symbols for other terms, and relations for other relations. "Now the observations show that relations may function vicariously, even as do the contents or terms"



(p. 151). "In some cases the symbolic function of relations is, through daily habits, become so inveterate that relations of one sort are represented by other relations as automatically as they are named. Even the naming of relations often suggests the basis of transfer. Pitch relations, thus, are named as higher or lower, and are usually spatially represented" (p. 162). "But to conclude that the originally perceived relations are represented by the sensory or imaginal details of the present instant is a grotesque fantasy. It is the new primary relations that mean the original primaries, just as the 'revived' imaginal contents or the new kinaesthetic sensations may represent the original primary objects or qualities" (p. 156).

This last quotation reveals a fresh idea. Relations, whether original or symbolic, are always primary, fresh, brand new. They are never revived. Terms, however, may be secondary, stale, old, revived. But, we may ask, are not relations as well as terms always both fresh and stale? Along with this peculiar sorting of the fresh from the stale is another interesting division. Hollingworth asserts that both terms and relations may function *either* merely for themselves *or* vicariously. Their vicarious functioning is an addition to their immediate nature, which addition does not change them. The question arises whether they do not always function both for themselves and vicariously. But here we are getting away from description and into criticism.

By way of a final descriptive analysis, which is on the verge of criticism and so will serve as a transition to our next section, let us indicate Hollingworth's attitude toward universals. Meanings are natural events or sequences of natural events. They are thus always particular. In so far as meaning involves identity (e.g., of the response to the original stimulus with the response to the present redintegrating element), it does not depend upon any universal, but simply upon membership in one class. "Briefly, this problem [the problem of identity] must be approached not through the way of 'universals,' but by the aid of the doctrine of 'classes.' For our present purpose such expressions as 'the same event,' the 'same detail,' the 'same response' can be more accurately rendered 'a detail, event, or response belonging to the same class,' or even 'details, events, or responses indistinguishable from others for a given purpose'" (p. 245). "The essential point is that the psychology of thought need not become involved in the riddle of 'universals,' as propounded by the idealistic logicians. . . . Identity is only absence of change, and change is always a succession of particulars" (p. 246).

In summary, then, Hollingworth stresses the following charac-



teristics of meaning: it is a form of behavior; in it, parts function for previous wholes; often it appears to be a substitution on the basis of a partial identity; it is not a copying by means of images; any type of experience may become a symbol providing it function vicariously; relations, which are always fresh, may be borne by almost any class of sensory or imaginal terms or poles; meanings are always particular and natural, and do not involve any reference to universals. This is far from exhaustive, and we can hardly hope it will accord with Professor Hollingworth's evaluation of what is fundamental. However, armed with the good sword that we previously fashioned, let us hope that we have protection against attack from the rear; and in this hope, let us press forward to the more dangerous undertaking of criticism.

## II

Professor Hollingworth's discussion of meaning is surely stimulating and provocative of thought. It is overflowing with startling places for investigation and rumination. Of the many lines of questioning it has suggested to me, I wish to set down three that seem to be fairly central and representative.

Every meaning presents us with an identity that somehow persists through change or retains its integrity through a series of manifestations. This identity is usually designated as the meant or the signified. So the first question to interest us is, "Where does Hollingworth locate the identity essential to meaning?" There seems to be two possibilities: the "same response" which continues to be elicited by the vicarious, partial stimuli, and the total, original stimulus, whose maternal instinct bids it enfold all its lesser offspring to its own capacious bosom. But is either of these really sufficient?

The "same response" seems to distill itself into a mere repetition of similars, when warmed by the light of close scrutiny. Besides, we are explicitly told that its identity is merely the sameness ascribable to many particulars belonging to one class. In short, each appearance of the response seems to present us a nature all tied up and sealed, complete in itself. As always happens when identity is reduced to repetition and similarity, we find here the tendency to treat sameness as really not uniting at all, but as simply a character of each particular. If this analysis of Hollingworth's "same response" is correct, then the latter does not fulfill the requirement we have seen meaning always presents, for it gives us only a specious identity.

But how about the total, historic stimulus or event that so graciously passes on its nature to its leaner offspring? Is not this the



identity we have seen meaning demands? If at first we are hopeful, let us take heed quickly from our author's own warning. He bids us eschew universals. All events are particular. Therefore this one must be. Once gone, *it* never returns. Perhaps its effects live on after it; perhaps it lends efficacy to its own dismembered parts; but its own life blood is gone in the one pulse that constitutes its existence. This surely is sad. The mother rules her children with iron hand (Hollingworth would seemingly give them no leeway), but her extermination is a prerequisite for her rule. I wonder if Professor Hollingworth is not really regressing here to his pre-adolescent religious training? Has he not endowed this mother with another, ephemeral existence, so that, though dead, yet doth she live? Perhaps her identity has simply changed from coarse, restricted, sensuous matter to refined, out-reaching, invisible ectoplasm. To put the matter nakedly; has not Hollingworth got in his original, total stimulus both a truly persistent, change-including identity and a merely specific event, completely destroyed by the first appearance of change? But we must take him at his word rather than guess at his intent. When the vicarious or substitute stimulus is functioning, the original one is absent, has ceased to be. And surely, no specific, previous event can give us the identity that meaning demands. Consider the word "meaning." Does it function as a substitute for (does it mean) an original, total, specific event or stimulus? If so, point it out. What was this original? The embarrassment is not due to forgetfulness. Rather, it arises from the fact that every word refers to a common nature (not to a merely particular event), and to a persistent identity (not to a merely previous situation). What is meant, what is substituted for in meaning, is never a mere specific. And since Hollingworth tells us that his original, total stimulus is a particular event, we can not find satisfaction in this direction.

But Professor Hollingworth is clamoring to defend himself. "I agree that meaning always involves and is based upon identity. But that identity is to be found neither in the 'same response' alone nor in the original stimulus alone. It is to be found in the fact that later, partial stimuli function for the original one in an identical way, by calling forth the response which the original stimulus called forth. The identity is one of function." This is fine. It kills forever that insidious foe of thought, the static entity. But let us inquire into this efficacious deed we have attributed to Professor Hollingworth. Does it mean that the calling-forth and the response are distinguishable? Evidently it does. Then let us question the calling-forth as we previously did the response. Can one calling-forth be the same as another? The two occur at different times,



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are consequent to different stimuli, etc. I take it, by analogy, that our verdict here, as before, must be not "the same," but "similar," or "belonging to the same class." In short, we have again a series of particulars each of which is destroyed by the arrival of change. And since we have been told that identity means the absence of changing particulars, our conclusion is easily drawn. Meaning is left without any real identity, and so is meaningless.

Let us start another line of inquiry. Besides a persistent identity (the meant), meaning always involves a more or less changing symbol, which means or refers. It will be interesting to question Hollingworth as to the nature of this symbol and its relation to that which is signified or to that for which it is substituted. Professor Hollingworth tells us that the symbol is always a part functioning for a whole. Now, this may mean one of two things (and I think Hollingworth usually means both without distinguishing them). It may mean that, so far as the part does function for the whole, it is that whole, but the whole peculiarly summed up in one of its aspects. Or it may mean that the part simply takes the place of (and thus excludes), substitutes for, or functions in lieu of the whole. In harmony with his tendencies toward specificism, Hollingworth also tends, I feel, to favor this last emphasis. Many questions spring up. Can the present part be called a part of the whole which is now past? Rather, is it not simply *similar* to a feature which was a part of that whole? If the original whole has really ceased to be, has not every part perished with it? If we are asked whether parts can not retain their identity even if the whole be destroyed, then we must obviously counter by asking whether their identity in other respects has not been confused with their identity as parts of this whole that has ceased. In short, can parts function independently of their wholes (even though that function be the intimate one of vicarious substitution) and still, in that independent capacity, remain parts of these wholes? Has not Hollingworth made a vital mistake here, and confused vicarious substitution of parts for wholes with the vicarious immanence of the whole in every part of itself? Surely it is this latter that symbolization demands, and upon which even the former depends, though confusedly. When we say, "The symbol is a part of the thing meant," we must add, "but it is also and thereby the whole." Hollingworth's difficulty is that he has made the identity of the whole external to all change, and thus he must isolate it in a particular past time. Every occurrence of a part-symbol must be in a new time, and so must be cut off from the whole. But may we not conceive of the whole as including the changing process of symbolization of it, and thus itself growing while still retaining its identity? Does not the whole truly



share and, in fact, live its life in the fortunes of its parts? Has not Hollingworth really destroyed the vital nature of the relation of symbol to the symbolized by implying an externalism of the two aspects involved?

We have come now to our widest and most speculative of questionings. Hollingworth says that meaning is one form of sequence, to be contrasted with another. Or, to state it differently, but still in harmony with his thought, meaning is one type of behavior. We have already agreed that meaning always involves change, but there might be a question whether "sequence" or "behavior" would intimate the other aspect of meaning that is always involved, namely, that of permanence and identity. But passing by this line of thought because it comes too close to our previous ruminating, let us ask another sort of question. Can meaning be *restricted* to some *one form* of sequence or behavior? Does not every change belong in the realm of meaning? What would meaningless change be? Would it be simply immediate experience in all its concrete complexity, with no economizing functioning of the partial for the complete? If so, we seem to be in trouble. For *all* reality so far as we can discover is always pointing beyond itself to further, unexhausted detail. Can we restrict meaning to some one form of behavior without distinguishing this type of behavior from other reality and claiming meaning for this distinction? Does meaning occur as a distinct sort of event within a reality including many other sorts of things, or is it simply an aspect of all that is real, but an aspect we abstract for inspection? It is only fair to point out that Hollingworth does hint at this last intimation when he ascribes meaning to what he calls natural sequences, which he has contrasted with redintegrative sequences. If he were to push this thought, no doubt his general emphasis would become profoundly changed.

We have purposefully omitted many enticing questions because of the desire to call attention to what we conceived to be fairly basic. These basic questions were: Where does Hollingworth give us the identity that includes change and that is usually designated by the meant? What is the ultimate relation of the changing, partial symbol to its total, permanent meaning? Can meaning be restricted to one sort of event, or is it an abstracted aspect of all the real?

All this suggests our own view. Much that Hollingworth stresses is vital. Meaning is a part-whole relationship, where the part functions vicariously for the whole. The part, which functions as a symbol, can be almost any feature of the whole, and often is some quite unimportant detail. It need not be an image in the traditional sense, and is practically never a little or vague duplicate



of the whole that is meant. But we must deviate from Hollingworth in certain other vital respects. The whole for which the partial feature functions as a symbol is never a merely particular event occurring all at once at a time previous to the functioning of the symbol. It is rather a "universal" that grows in the process of reference to it. It is universal not in the sense of being of another essence from change and difference, but in that it includes these and unites them by transcending them in its own identity. It is universal because it refuses to let temporal, spatial, or other differences split it up into a mere collection of particulars. Furthermore, the part that functions vicariously for the whole presents that whole immanently in its own nature. It is no mere substitute by virtue of filial duty or family resemblance. It is the whole. Yet we must be careful here. It is not the whole in all the latter's inexhaustible concreteness. What we must recognize is that completeness and partialness are not two separable characters of the world. They are warp and woof of the texture of things, and it is their very unity and interdependence which is the essence of meaning and the paradoxical core of human knowledge. They are the flickering, entangled light and shade that compose the ever-fleeing, never-quite-grasped mystery of this finite life of ours.

EVERETT W. HALL.

LAWRENCE COLLEGE.

## MEDICINE AND SCIENCE<sup>1</sup>

WHERE the study of disease belongs in a scheme of knowledge is not a new inquiry. It is my object to analyze the situation of medicine; to show how it deals with unique phenomena; to show why it is entitled, not by courtesy, but in the nature of things, to its high status as a natural science; to illustrate the justice of this contention in so far as this can be established in such terms, by comparing its structure with that of other sciences; and finally to indicate the variety of opportunity this many-sided discipline affords.

Distinguished leaders in Germany, to which the habit of three generations has accustomed us to look for light and leading, have recently been engaged in a polemic often pessimistic on the aims and organization of medical thought and practice. Many of their observations are germane to this discussion, but for the moment I prefer to lay aside certain of the issues they have raised; they are issues of organization, of the psychology of patient and physicians, of the

<sup>1</sup> Based on an address delivered at the Opening of the University Clinics and New Medical Laboratories of the University of Chicago, October 21, 1927.



relative significance of practice and learning. I find it imperative rather to face problems more fundamental. I am more concerned with medicine itself and its analysis than with how such issues should be met and who is to meet them. These are secondary questions. They will be answered when there is agreement on what is essential in the situation. The problem can be defined by quoting statements by Sauerbruch (*Naturwissenschaften*, 1926, xiv, 1081-1090) which reveal two underlying opposing motives in medicine. The first statement declares that there is native in us the impulse to help the sick ("Der Trieb den Kranken Menschen zu helfen ist uns angeboren"); and the second that we experience a compulsion to explain life and its phenomena ("Der Drang, das Leben mit seinen Erscheinungen zu erklären"). "The moment," he says, "in which this second phase of medical interest becomes conscious and operative, a tendency antagonistic to the first can be recognized as having developed." ("In dem Moment wo dieses zweite Element ärztlicher Tätigkeit sich durchdringt zeigt sich schon sein Gegensatz zum Ersten.")

We shall get no further with this *Gegensatz*, this antinomy of Sauerbruch, until we make an effort to define what we mean by medicine and what by science. I do not mean to imply that without making conscious definitions, significant direction in research or in practice in any calling may not take place. In the pages of history there is ample evidence to show how often development has occurred without precise definition. But may there not be another kind of procedure? Does not the current movement in medicine suggest that a systematic method may be employed? I mean, at all events, to employ it, in order to explore what experience and tradition the history of science holds out to medicine.

For medicine the hope has been expressed before now that it may become a science. But many doubt that this is a possibility. The statement is made that the content of its interest is too diverse, that it is subject too much to accident, too much to the source of interest of the moment; we are told that one disease disappears and is conquered only to make way for another and that its subject-matter shifts too much to expect to constitute it a science. This surely is the thought principally of those who think of medicine chiefly in terms of infectious diseases. But others I find go further still and maintain that this content can not lend itself to treatment proper to a science.

So far, a claim to regard medicine as a science, in the sense in which other disciplines are presumed properly to be so regarded, has scarcely been made. If medicine is not a science, but only one of the crafts, a calling which thrives by applying to its own subject-



matter theoretical knowledge obtained outside its own practice, and practical knowledge the result borne of the successful repetition of well tested acts, there is no use in the elaboration of complete intellectual machinery to carry out its purpose. All that is required is practitioners. What the training of these should be is a matter about which one need not stop to inquire; for trades have always, through their guilds, found the method by means of which their craftsmen have been furnished with sufficient instruction. But this is not the situation in medicine; medicine has accumulated theoretical knowledge of its own and this has had its origin in age-long and varying experience. These possessions, as we shall see, are the occasion for developing a science.

I adopt Sarton's definition of science as "systematized human knowledge." But there need be less concern on the score of a definition of Science than on that of the definition of a science. I intend later to attempt to analyze what may be meant by this phrase. By the term "medicine" I mean the discipline which is engaged in recognizing, in distinguishing, and in studying diseases; the subject-matter of medicine is the sum total of human ailments. It is devoted to the study of disease in the living, fostered by whatever means may appropriately be employed. It is not coextensive with any method, such as experimental pathology, but utilizes data so obtained, whether analogical or inferential, for its own purposes. It does not necessarily include therapeutics, even though in times past Laennec went so far as to declare that the object of medicine is the cure of disease. It seemed for decades a wise statement. But whether it was so, made little difference so long as the building up of knowledge required, relatively speaking, a simple equipment. Now it is not the fact that the necessary equipment has become complicated that makes the difference; the essence of the matter remains the same. But the very cumbersomeness of the new requirement demands an analysis and a readjustment of the problem. It appears now that medicine is concerned with knowing about disease, a very different thing from making efforts to cure it. Cures have remained largely empirical, except in instances such as the treatment of cretinism and of diabetes, where the method of procedure has had a genuinely rational origin, and perhaps also in the case of certain infectious diseases, in which the nature of the infecting agent was considered in developing immunological procedures. The two should be separated—medicine and therapeutics. The failure to separate them has confused an issue; so long as therapeutics remains inseparably bound, conceptually, with medicine, there is no escape from the conclusion that medicine is and must be regarded as an applied science. But in the separation medicine becomes what physiology or



any other biological science is—a discipline affording an opportunity simply to investigate arrangements and processes of diseased living matter. This search does not necessarily involve the notion of consequent practical action. The situation is exactly analagous to that in the physical sciences; for there a study is not necessarily antecedent to application, to an attempt to interfere with a natural process. Many illustrations may be cited. The names of Kepler, Galilei, and Newton; of Descartes and Leibniz; of Lavoisier and Dalton, of Volta and Maxwell, occur at once in connection with astronomy and mechanics, with mathematics, with chemistry, and with electricity. Technical application was not the object of these discoveries. The consequence, the applied action of discoveries in physics, is recognized at once to be engineering. Invention, engineering is the application of the physical sciences. This analysis implies nothing invidious; it purports to be merely a statement of the facts. The relation between medicine and therapeutics is comparable. Medicine is the study of diseases, regarded as biological systems; therapeutics an attempt to utilize that knowledge for the purpose of interfering with or rectifying abnormal courses. That there should be systematic research in therapeutics even as there is in the study of disease, admits of no doubt. Nor is there the least reason for denying or doubting the fact that in discovery the applied may, and sometimes does, precede the underlying science. But to establish this sort of priority is not the reason for urging this separation; its object is clearness in thinking—as will appear later. In point of fact one may doubt whether strictly rational therapeutics *can* develop far until knowledge in medicine proceeds beyond its present state.

Still another argument is made against including medicine among the genuine natural sciences. This argument states that the motive for studying diseases is humanitarian and that this motive is not one which has occasioned an interest in nature like those which its other phases have elicited. It states also that whereas other sciences concern themselves with the normal, medicine concerns itself with the pathological. But such arguments scarcely have an inherent justification. They rest on the notion that there is an invidious distinction between an interest in man, especially diseased man, and all other natural objects. The pendulum has swung far indeed, from its position a hundred years ago, when it was claimed that the prime object of human interest, perhaps an unjustifiable overstatement, was man. A science does not depend on whether the motive for study is humanitarian nor need it stop to inquire whether the subject-matter is pathological. It would, indeed, be difficult to draw a dividing line which limits the domain of a humanitarian interest to



one of its sides; in a sense all science is humanitarian. If by humanitarian is meant sentimental, that indicates merely a more immediate and pressing interest and need not prejudice either the ultimate object of the study or the seriousness of the undertaking. If something less serious is meant it need scarcely for that reason deflect any one from his legitimate scholarly pursuits. To insist that the content is pathological rather than normal is to misplace an emphasis, for surely both phases of life are natural. That it is studied early in the development of biological science, when every means at one's disposal is eagerly grasped to further the solution of such problems, argues only its urgency, not its irrelevance.

If medicine is to be a science and is to be so fostered it must in all probability behave as sciences in general do. Huxley has put the matter in this form: "The object (of physical science) is the discovery of the rational order which pervades the universe; the method consists of observation and experiment (which is observation under artificial conditions) for the determination of the facts of Nature; of inductive and deductive reasoning for the discovery of their mutual relations and connection. The various branches of physical science differ in the extent to which, at any given moment of their history, observation on the one hand, or ratiocination on the other, is their more obvious feature, but in no other way; and nothing can be more incorrect than the assumption one sometimes meets with, that physics has one method, chemistry another, and biology a third" (*Essays*, Vol. I, p. 60). Huxley has been at pains to show that "physical science is one and indivisible." This statement prejudices the matter, however, for we have yet to show whether medicine may belong in this company of the sciences. No doubt there is general agreement on what the object and the method in the natural sciences are. All of them examine the phenomena which comprise their subject-matter, analyze them, make deductions from the analyses, and proceed to generalizations from these. They have, in fact, in recent times followed the ways of observation, of classification, and of deductive and inductive inference.

It has been my object so far to indicate roughly the background for considering this problem of the place of medicine in the Fraternity of the Sciences. The greater difficulty is still, however, unexplored and concerns the troublesome matter of defining what is meant by a science.

Huxley spoke of the object in science as being "the discovery of the rational order which pervades the universe." At the basis of any science is curiosity as to natural phenomena. In order to apply the methods of science to them it is almost indispensable to separate certain phenomena obviously related into groups or classes on ac-



count of certain superficial resemblances. A group so constituted may then be called a science were it not that objection would at once be raised that a claim such as this might serve as the adequate basis for a science of alchemy, or astrology, or a science of certain forms of psychology. Apparently additional criteria are needed before a class of related phenomena are believed to constitute a science. The hypothesis which underlies the segregation must be tested. As sophistication develops, the tests become more severe. Superficial resemblances give way to others more profound; Koch's rules for identifying micro-organisms as the agents of disease become only partially adequate. These rules require, it will be remembered, that bacteria should first be isolated, then grown artificially outside the animal body, and finally be injected in animals in order there to reproduce the original disease. In other directions, concrete descriptions give place to statements more general and more abstract; the more abstract and general these become, the more do they purport to be universal and to serve as the basis of prediction.

Through what cognate stages, then, must we pass before medicine may be spoken of as a science? The first must clearly be that the phenomena of diseases are recognizable in nature. Diseases are in point of fact unique phenomena in nature; they do not exist as independent entities, nor are they manifest in normal individuals. They are, on the contrary, inextricably associated with organisms which become quite new beings due to the presence of disease. Of course, a diseased individual does not lose his form, nor are his general activities unrecognizably altered by the presence of disease, but in many quite subtle ways the mechanism of his organization alters. The altered state is seen very clearly in infectious disease when the mechanism of immunity comes into play. It is seen also in hormonal diseases such as exophthalmic goitre, where the principal malfunction brings in its train derangement of so many other mechanisms of the body. It is more conspicuously seen in the alterations during circulatory failure in response to which practically all the processes in the body take on new phases. These illustrations suffice to indicate the uniqueness of living organisms under the influence of disease. This uniqueness is crucial for science, for if the phenomena are unique they must be regarded as the bases of medical science, just as bacteria, rocks, molecules, and fossils are bases in the sciences in which they in their various forms are the objects of inquiry.

Disease phenomena must, moreover, give the appearance of being *prima facie* related. An outstanding difficulty has been the fact that their interrelations are not immediately obvious. In a study of Linnaeus and of the older nosologies the reasons appear at once.



The endless catalogue of characteristics suggests no coherent pattern. Before infectious diseases could be grouped similarities must be shown to exist, communicability—fever—infectious agent. Perfection in classification could come only after the institution of these and similar criteria. The discovery of certain of them is within our own memory.

Next must come the assurance that there are methods for dealing with them. And then comes a crucial question: Are they to be dealt with in the domain of some discipline already in existence, such as experimental physiology and experimental pathology, or are they to be treated by themselves alone? Are they to be studied as diseases, or as phases of pathology, as the phrase goes in England, or as pathological physiology, as it does in Germany? Elsewhere the suggestion has been made that the study should proceed as a phase of physiology, and finally has come the idea, notably in America, that they be relegated to a discipline sometimes called research medicine and sometimes experimental medicine.

I have tried to make clear that a disease is a phenomenon that exists in nature, *sui generis*. By the same token, its study does not lie in the domain of any of the other disciplines which have developed or have heretofore been associated in medical schools; I refer to anatomy, embryology, physiology in the proper sense, chemistry or certain branches of physics, and to any hybrid of them. Obviously the phenomena of diseases, no matter what interrelations exist among the several kinds, are not the proper concern of any of these disciplines. As a matter of fact, the history of medicine since the Renaissance has shown plentifully that whenever the approach to an understanding of disease is made by scholars trained primarily in other pursuits of knowledge and animated primarily by their interest in these, the result, so far as understanding disease is concerned, is disappointing and sometimes grotesque. A similar statement may be made in the case of physiology. There seems little escape from the conclusion that if there are phenomena of disease which can satisfactorily be grouped by themselves, they can not satisfactorily be fitted into any discipline already existing. The only discipline in connection with which an association is conceivable is physiology, but the case against including them here is complete. Physiology has its own problems, great in number and enormous in complexity, and those of disease are not among them. Even if it were possible to view disease or diseases as phases of physiological derangement, the matter would not be settled, for medicine has claims of its own to consideration, the neglect of which leads to quite as much incongruity as did the approach to it of the more mechanical sciences. The case in medicine is the same as that in sciences already well



established and consists as a prerequisite in sensitiveness on the part of observers to changes in the natural phenomena with which they deal. The point is contained in the familiar phrase "chance and the prepared mind." Those of us who in modern times have come into contact with the study of disease when this has been in the hands of chemists and physicists, have become amply aware of the fact that the peculiar nature of disease phenomena themselves interferes with an appreciation of them on the part of individuals who are not primarily trained in their contemplation. No doubt the solution of problems of first importance in relation to disease may originate in disciplines outside of medicine, as in the case, for instance, of Pasteur, and in the future likewise important contributions may be expected to arise in this manner. For the boundaries between the sciences *are* artificial. I am here concerned with the development of medical science, not through chance, but by organization. If there is a satisfactory case to be made for the science of medicine it surely must suggest as a consequence the value of affording to its own votaries the opportunity for investigation.

Disease phenomena then are unique and can be grouped for study in an appropriate discipline. But before the status of a science can be accorded them, it must have become possible to manage them as the natural sciences are managed—there must be available or there must be developed methods appropriate to their study. Physiology has attained this distinction. In point of fact the success of physiology had gone so far at the turn of this century as to embolden its professors to attempt to extend their labors to the study of disease itself, as witness the institution of departments of research or experimental medicine. Here is tacit recognition of an important fact; the belief prevailed that it had become possible to study diseases by rational and precise methods just as had become the practice in physiology. There was available, in short, a methodology for the pursuit of a science of medicine. The methods may not have been, may not be peculiar to, nor have had their origin in, medicine. But that has no ultimate importance. There is, indeed, scarcely a science of which it can be said that its methods were developed exclusively for its own use. In biology, for instance, use is made of physics, chemistry, and mathematics. And conversely, biology, in the case of Galton, has made its own signal contribution to mathematical analysis.

There is a respect in which a distinction between medicine and other sciences may be drawn. The other sciences give the impression of occupying themselves on superficial inspection with a subject-matter that is homogeneous. In the study of diseases, relatedness of the units of interest can scarcely be urged. There is no systematic



relation, for instance, between typhoid fever and Graves' disease, nor between Graves' disease and the heart failure of senescence, nor between heart failure and dementia præcox. How can subjects so unrelated be grouped together? How is it possible to subsume them under the head of a single discipline? They have obviously different origins, different mechanisms, and different natural histories. Does not this diversity interfere with their unification in a single science?

But have these questions real importance in considering the conception that medicine is a science? Consider the other sciences—chemistry, for instance. Can there be greater differences either in content or in the methods employed than in the study of proteins, carbohydrates, fats, and inorganic substances? Each of these is studied independently by methods having no necessary relation to those employed in the pursuit of any one of the others. Others may prefer a different division of chemistry to illustrate this point, but this is a matter of little immediate importance, for on either plan the main contention remains, that familiarity with one aspect of the science need not imply equal familiarity with the others. Is not the same true in physics, where mechanics, heat, sound, and electricity receive separate treatment? But in spite of apparent diversity of appearance the history of physics has exhibited continuously a concern to discover unifying principles in its endeavor to unravel the constitution of matter. It has not changed the object of its inquiry from the beginning until to-day. The Greek natural philosophers very early appreciated the fact that matter must be resolvable into elements. It makes no difference that the number of elements varied, that there were four, five, or ninety-two at different periods, nor does it matter that at one period the elements were thought to be large and at others infinitely small. One of the obvious triumphs of modern physics has consisted in discovering these common elements in appearances which seemed obviously so different. Sight may, of course, not be lost of the fact that however the same they are in their ultimate natures, the first approach to the study of such matters as light and electricity pursued most diverse paths. The direction of the search has always been the same and the general conceptions uniform.

In this respect the study of disease seems at first apparently to suffer a disadvantage. Conceptions of disease disclose no such constancy of view. Until recently there appears also to be wanting a unifying elementary principle comparable to that in physics. It was not, indeed, until the nineteenth century that a unifying principle comparable to elements in physics was hit upon. Müller, and Schwann and Schleiden in the eighteen-thirties, made the great discovery that large and complex organisms were composed of cells.



After this cells in biology became the correlates of atoms in physics or molecules in chemistry. The atomistic view of the organism was introduced, not without misgiving to scholars like E. S. Russell (*Form and Function*, 1916) so far as the meaning and significance of morphology, of form, were concerned. Virchow twenty years later extended this concept when he demonstrated the close relation between diseased bodies and diseased cells. The doctrine of organization, now especially on the threshold of receiving much more attention, undoubtedly is one which also has served to unify thought in biology, and ought perhaps to be placed equal to, or at all events together with, that of cells. I am inclined to think, though, that in the sense of being elementary, meaning thereby reduction to the smallest usable entity, less reliance would now be placed on organization did one not have the security derived from the assurance that the analytical bottom in biology has been reached in possessing the concept of cells. Organization in the sense at all events in which the phrase is now being used is the event of to-day.

Cells in biology, then, are to be regarded as the analogues of atoms in physics. But cells are infinitely more complex than atoms; they are infinitely more complex than molecules, and the laws of mechanics probably do not apply to them in the relatively simple form in which they apply to inorganic matter. That they may apply is possible, but there is reason to believe that this need not be so. It is unnecessary to discuss this subject further than to point out that it involves the question of mechanism and vitalism and perhaps that of emergence. If one goes further and compares the synthesis of the elements in physics with the elements in biology, the difficulties multiply. Even though matter may be simply an aggregate of atoms, it is known that when additive quantitative changes are made, something besides quantitative changes often emerges. In the new synthesis, unanticipated qualitative transformations take place. An uncomplicated instance is to be observed in the difference between the behavior, let us say, of strong and weak solutions of electrolytes. If simple addition and multiplication bring about qualitative change in the inorganic world, how much more complex does the matter become when cell is joined to cell in cell aggregates and when these in turn are multiplied to form organs which in order to function properly must exist in equilibrium in the bodies of complex metazoa.

The meaning of all this seems to be that for the time being or perhaps for all time the effort to investigate living matter with the same degree of simplicity with which non-living matter can be treated, must fail. This situation may be inevitable. Burt (*The Metaphysical Foundations of Modern Physical Science*, 1925, p. 156)



suggests that ever since 1600, science has consistently been divided into mathematical and non-mathematical aspects. There were Kepler and Galilei on the one hand, and Gilbert and Harvey on the other. Is the inference to be drawn, that living matter can not be regarded and can not be treated as a science in the same way that inorganic matter can? That they are strikingly different is, of course, amply apparent. But that the ability to employ one kind of treatment in the case of one set of phenomena constitutes that set a science, and that treatment of another kind fails to qualify it as one, seems to make a decision depend not so much on the existence of one or the other set of phenomena, or even on one's ability to arrange both sets in classes accessible to intelligent treatment, as on the difference in the methodology employed in the two. Surely the issue can scarcely be decided by defining science as methodology.

It may seem that in these considerations we have wandered far from the question whether the study of diseases may be regarded as a science, but the distance is not so great as it seems at first. It has already been pointed out how various are the forms in which physics and chemistry may be studied and how elementary principles underlie these diverse appearances. A similar analysis was made in considering the case of diseases. Here again classes were found which seem at first to be obviously unrelated; there are hereditary and congenital anomalies, infectious diseases, malfunctions of the organs of the body or metabolic diseases, mechanical derangements, and senescence. In this case the elementary principle was found as Virchow found it, in the pathology of individual cells. That these undergo different disorders when they are affected in diverse ways is what must be inferred from the great variety of derangements which have been described. Being complex, their reactions are multiform. To drag them into simplicity and apparent uniformity is probably impossible. Classification of such entities even if complex may be difficult. But classification is antecedent to the possibility of rational, scientific treatment. And this naturally is the more satisfactory, the simpler and the more general the terms. Treatment in simple and general terms is now being met in the inorganic world, but in this sense the attempt to contrive similar methods, even if it does not quite fail, is none the less not yet successful in the case of biology and, of course, in medicine. But even in physics we may recall that Planck (*A Survey of Physics*, 1925, p. 19) has said: "I hope that the above considerations will have sufficed to make it clear that the difference between reversible and irreversible processes lies much deeper than that between mechanical and electrical processes. Therefore this contrast may, with more accuracy, be made the most convenient basis for partition of all



physical phenomena, and may play the chief part in the physics of the future."

It is, however, unnecessary to give away the case for biology so easily. The great success of contemporary physics tends to obscure certain historical facts. Dalton's discovery of molecules antedated that of cells by Schleiden and Schwann by little more than twenty years. Theories of light, heat, and electricity have been about as long in the making as theories concerning the origin of species, the laws of heredity, and the nature of disease. Attaining clearness in any of them has not proceeded without much speculation, sore trial, and increasing insight under great difficulties. Considering the complexity of living matter, it is extraordinary that results so apparently reasonable should have followed so soon in the wake of discoveries concerning the behavior of non-living matter. In spite of the greater difficulty of generalization, of exact expression, and of mathematical statement in the case of living matter, effort in this direction will no doubt nevertheless go on. If certain data are inexpressible in mathematical terms a form of expression inherently suitable, but different from these, must be substituted. Accurate classification may serve instead, a procedure, however, much more extensive and complex as E. W. Hobson (*The Domain of Natural Science*, 1923) has pointed out than is that in sciences dealing with non-living matter. If classes can be well defined, thinking of adequate accuracy and usefulness may take place. The added need for great accuracy in definition is apparent. Under these circumstances the function of experiment is obvious and for this reason of first-rate importance. To bring precision into definition is no doubt the source of its great value. This is a subject on which Goethe, Galilei, and Bernard have things to say, different as I think from the current acceptance of its significance. Galilei, for instance, is reported by Fahie (Singer's *Studies in the History and Methods of Science*, Vol. II, p. 251) to have said "Ignorance had been the best teacher he ever had, since, in order to be able to demonstrate to his opponents the truth of his conclusions, he had been forced to prove them by a variety of experiments, though to satisfy his own mind alone he had never felt it necessary to make many."

These observations have a meaning for whatever arrangements are made for study and investigation. We are dealing with a disinterested science and with its application in practice. As in all such situations, there is the obligation to teach, the need to practice, and the opportunity to investigate. Of the need of practice and of teaching nothing need be said; they are well established academic activities. But the place of research is not so well defined. It is difficult to establish the truth of the statement, but there is a general



impression that the study of disease leads for the most part to a career only in the practice of medicine. That the phenomena of life exhibited by diseased cells may be investigated apart from this motive, that they can be studied as can any other biological system, is not a familiar belief. And yet there is no doubt that they lend themselves to this purpose. Disease is also a state of nature. The study of diseased systems may, indeed, yield information of first-rate importance concerning the behavior of living organisms. Both are natural and might for the purpose of biological generalization be equal. This is an idea which may very well become the basis of a conscious direction in the study of medicine of which until now no advantage or relatively little has been taken. The kind of addition to knowledge which may come from the pursuit of study of this sort is illustrated by reference to the title of such a work as Adami's *Medical Contributions to the Study of Evolution*, 1918. If it becomes recognized that the study of diseases offers these opportunities, medicine at once will be seen to take on new aspects. Men entering the study with widely different purposes will aid in the pursuit of its aim. It becomes unnecessary any longer to center interest in diseases exclusively from the point of view of the practice of medicine. So various, indeed, will become the opportunities for research that professors will develop with a range of interest widely divergent from those which are familiar. Recently the idea has been expressed that if the psychology of a man is known, you may know at once the type of his philosophy. And so in the walks of medicine. Men with different interests will be wanted, moreover, in order to fill all the necessary functions, men with varied capabilities, including the ability to teach, the ability to administer, and the ability to practice. In organizing our clinics it may be better to regard these functions separately and to make separate provision for each, coördinated perhaps, but not necessarily unified in a single individual. There is implied the consideration that in order that men of interests and abilities so widely different may become available to serve as leaders in these various directions, the opportunity for appropriate training for each calling must be arranged.

Views like these, separating but not stratifying the phases of medical interest, may be expected to free medicine so that it may flow unhindered in its several appointed ways. To fail to make this distinction is to fail to define precisely what the various functions of medicine (or any other science and its application) may be. Otherwise medicine will remain tied either to practice or to research. Of long this may happen we have had experience. At periods not so long past it was the custom, perhaps not universal, but nevertheless widely practiced, to restrict the budget and the opportunities of



professors of the so-called contributory or basic sciences to requirements commensurate with the interests of the practice of medicine. Such limitations proved to be intolerable. But this picture has a reverse. When the movement looking forward to the emancipation of medicine from the current needs of practice began, the opportunities of the clinics were reserved for men holding strictly academic posts. Here again there were introduced limitations which proved to be intolerable. Unless provision is made for the various functions implicit in medicine, medicine will remain, as I have said, tied either to practice or to research. The forward movement of the whole discipline will be hindered. If there is to be free development of all the functions of medicine, the impediments to growth should be removed. Define the phases and all who are concerned become free. On the basis of these considerations it becomes possible, perhaps for the first time, to describe without unfortunate reserve the several activities to which an interest in disease gives rise—to teach, to practice, and to investigate.

ALFRED E. COHN.

HOSPITAL OF THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH,  
NEW YORK CITY.

### BOOK REVIEWS

*La Pensée d'après les Recherches Expérimentales de H.-J. Watt, de Messer et de Bühler.* ALBERT BURLOUD. (Bibliothèque de Philosophie Contemporaine.) Paris: Félix Alcan. 1927. Pp. 192.

*Intelligence and Mental Growth.* C. A. CLAREMONT. New York: W. W. Norton & Company. 1928. Pp. 120.

Both of these volumes give evidence of serious study and careful workmanship within the limits set by the authors. But neither of them contains subject-matter that will appeal strongly to contemporary American psychologists. Dr. Burloud has delved into time-worn archives to review and evaluate, for French readers, the Würzburg studies on the higher thought processes conducted some twenty years ago. Mr. Claremont sets forth a speculative theory of the nature of intelligence.

The researches of Watt, Messer, and Bühler, it will be recalled, were designed to throw light upon what takes place when one is thinking, forming a judgment, arriving at an associative response, perceiving a meaning. The method of introspection was used, and a variety of simple tests were employed to provoke the mental activity that was being observed. The subjects were called upon not only to respond to the test items, but also to describe, as fully as possible, all the experiences that occurred in the interval during which the response was being made.



The results of these experiments, published in the *Archiv für die gesamte Psychologie* during the years 1902 to 1908, took form in a mass of introspective data, an elaborate dialectic bearing upon the findings, a good deal of controversial writing, and some general conclusions as to the nature of the higher thought processes. Burloud presents a faithful and well-written account of the entire enterprise so far as it relates to the three investigators mentioned in his title. A chapter is devoted to each one of these, and a final chapter gives a summary of the results and an appraisal of their value.

In Burloud's opinion, these researches offer no definite conclusions as to the construction of thought, nor any final answer as to the dynamics of mental activity. But he accords high praise to the Würzburg psychologists for the work they have done. According to him, their skillful use of the method of introspection, their profound observations, and their subtle analyses have revealed to psychology "new and marvellous horizons."

Twenty years ago this tribute might well have been received as a hopeful prophecy, but uttered at this late day it is somewhat lacking in force. To be sure, the investigation of mental processes and subjective events is still of major concern in the science of psychology. But the attack has taken a direction somewhat removed from the horizons revealed at Würzburg. On the one hand, there has been a tendency to decry what has been regarded as the naïve structuralism and futile dialectic of these earlier studies. Hard upon the investigations of Watt, Messer, and Bühler came the advent of behaviorism, the extreme antithesis of Würzburg, and violent in its criticism of introspective methods. On the other hand, sober psychologists have likewise moved away from the prevailing concepts of the Würzburg school; still perceiving in the method of introspection a valuable instrument of research, they have come to view the problem of thought from the standpoint of the formula of stimulus and response and the principle of redintegration. None the less, Burloud's book deserves recognition as a serious resumé of an historical period.

Another excursion into the analysis of mind, but somewhat more specialized in its purpose, is portrayed in Claremont's *Intelligence and Mental Growth*. In a brief preamble the author informs that his efforts are patterned on the methods of Fabre, Freud, and Montessori, to whom "three of the greatest advances in modern psychology" are due, and "whose disregard, almost disdain, for the ordinary technicalities of scientific statement, for the text-book preoccupation with definition and terminological precision, is almost proverbial."



Pursuant of his theme, Claremont presents the theorem that "the ultimate intelligence factor—that portion of the mental process which can not be classified in any other category, and therefore demands a separate name—is the power to become aware of the necessity in the very nature of things of certain causal relationships." This ultimate factor, he goes on to explain, does not exclude the necessity for training and experience, nor eliminate the possibility of individual differences. For it is "after a sufficient experience has occurred" that "a state of mind may be reached in which the sequence or coexistence noted is realized in some way as inevitable. This degree of understanding occurs in *some* cases of inevitable interconnection and not in others. It also occurs in *some* minds and not in others." The occurrence of this understanding of inevitable sequence he regards as the "single distinguishing mark of the 'intelligent mind.'"

According to Claremont, other processes besides the "perception of causation" (intelligence) participate in the evolution of a mental response. From a consideration of these, he derives a solution of the vexing problem of what is the "common factor" in all intellectual activity. Says he, "all the elements we have spoken of—associative recall, 'perception of causation,' creative power, judgments of similarity, perseverance, etc.—are themselves complex, and could be resolved into 'atomistic' elements, many of which would be common to all. *Hence these common elements take part in every single activity.* There is your common factor."

To describe intelligence as the "direct perception of causation," whereby, apparently, is implied a unique state of consciousness, is to offer a definition which itself needs defining. Claremont proceeds to prove his thesis by means of many illustrations, drawn from the fields of logic, geometry, physics, and from situations in every-day life. These illustrations, and the arguments that support them, are subjected to a good bit of interpretation and rationalization especially designed to vindicate the author's point of view. The book as a whole depicts an attempt to dress the concept of intelligence in a new terminological garb, and does not, in the opinion of this reviewer, add appreciably to one's understanding of the subject, by way either of theoretical insight or of concrete information.

BARNARD COLLEGE.

ARTHUR JERSILD.

### JOURNALS AND NEW BOOKS

THE INTERNATIONAL JOURNAL OF ETHICS. Vol. XXXVIII, 4. Social Psychology and Human Values: *F. H. Allport*. G. E. Moore and Intrinsic Goodness: *E. F. Mettrick*. Should the Doctor Tes-



tify? : *C. F. Taeusch*. Social Progress and the Good Man: *Bolling Somerville*. The Family in Modern Life: *L. L. Bernard*. A Scientific Ethics and Hedonism: *R. C. Cave*. Morals, Morality, and Ethics: Suggested Terminology: *H. N. Lee*. Plato's Theory of Social Progress: *E. O. Bassett*.

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ANNALEN DER PHILOSOPHIE. Band VII, Heft 4 u. 5. Die philosophischen Hauptströmungen im Monistenbund: *Lily Herzberg*. Zur kalkilmässigen Charakterisierung der Definitionen: *W. Dubislav*. Der Begriff der Null und der negativen ganzen Zahlen: *G. Stammler*. Zur Polemik "Kant-Vaihinger-Adickes": (1) *Erich Adiches*; (2) *Raymund Schmidt*.

REVUE NEO-SCHOLASTIQUE DE PHILOSOPHIE. XXX<sup>e</sup> Année, No. 18. La critique de la connaissance et la méthode de la philosophie: *R. Kremer*. Le raisonnement en termes de faits dans la logistique russellienne (suite): *R. Feyes*. La duchesse Aleyde de Brabant et le De regimine judaeorum de saint Thomas d'Aquin: *H. Pirenne*. Mgr. Simon Deploige: *M. Defourny* et *P. Harmignie*. Qu'est-ce que la poésie: *G. Legrand*. Notes de bibliographie médiévale: *A. De Poorter*. La Somme des Sentences dans un catalogue de 1151: *J. de Blic*.

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Tonnies, Ferdinand: Thomas Hobbes. The Elements of Law, Natural and Politic. Edited with a Preface and Critical Notes. To which are subjoined selected extracts from unprinted manuscripts of Thomas Hobbes. (Cambridge English Classics.) Cambridge: At the University Press. 1928. xviii + 195 pp. 8 s, 6 d. (A carefully revised text of both the treatise on *Human Nature* and the *De Corpore Politico*; to which are appended two hitherto unpublished pieces (a) *A Short Tract on First Principles*; and (b) excerpts in Latin from the *Tractatus Opticus* [relevant to Hobbes' correspondence with Descartes]. The editor's preface contains detailed notes on texts and manuscripts of these works.)

Fünfzehntes Jahrbuch der Schopenhauer-gesellschaft für das Jahr, 1928. Heidelberg: Carl Winter's Universitäts-buchhandlung. 1928. xv + 436 pp. 11 M. (This volume contains, in addition to the usual reports, critical reviews and essays on Schopenhauer, and a number of more general essays by distinguished scholars on the philosophical interrelations of Europe and India.)

### NOTES AND NEWS

There will be held in Paris in October of this year an International Congress of Applied Psychology. For information, address M. Paul Masson-Oursel, Directeur d'Etudes à l'Ecole des Hautes Etudes, Paris, France.



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# THE JOURNAL OF PHILOSOPHY

## THE THEORY OF RELATIVITY AND THE FIRST PRINCIPLES OF SCIENCE

THREE questions arise with reference to the theory of relativity. They are: What is the theory? Is it valid? and What does it mean? It will be assumed in this discussion that we know what the theory is, and that the question of its validity has been answered in the affirmative. Our attention will be directed to the question of implication and interpretation solely, except as it is necessary to draw upon and modify conclusions concerning the former questions in answering it.

There is a sense, however, in which a satisfactory solution of the problem of interpretation is necessary for a conclusive answer to the problem of statement and verification. It can not be denied that much of the hesitation which certain people have, with reference to their understanding of this theory and their acceptance of its experimental validity, arises from a certain uneasiness which they feel, and can to a certain extent rationally justify, because the theory, even after one is impressed by the logically consistent and simple synthesis which it produces and the experimental confirmations to which it leads, does not fit naturally into the physical world of concrete physical objects in which we have been working since Galilei, Newton, and Dalton.

This is true and, nevertheless, there is a sense in which it is not the whole truth. For there are two points at which the theory of relativity is part and parcel of the world of concrete physics. The one is its historical origin, the other, its deductive consequences. A consideration of the theory from the point of view of its historical origin will by no means permit one to regard it as an *ad hoc* creation coming into the concrete world of the laboratory from outside.<sup>1</sup> It grew directly out of researches in mechanics, optics, electro-magnetics, and mathematics carried on by men like Riemann, Fresnel, Maxwell, Michelson, and Lorentz. Furthermore, the applications of the theory in physical chemistry and astronomy are evident. It comes out of the world of concrete physics, and it plays back into that concrete world. Nevertheless, it, in itself, seems in a certain

<sup>1</sup>A. D'Abro, *The Evolution of Scientific Thought*, Chs. X, XI, and XII. New York, 1927. J. H. Thirring, *The Ideas of the Theory of Relativity*, Chs. I, II, and III. London, 1922.



sense foreign to that world. Its origin and its consequences are not the theory itself; the theory is a set of principles which express or imply a certain conception of the nature of things. It is that conception which puzzles certain of us. It seems to leave us with a universe of mathematical relations or with something called a space-time continuum which at one moment is referred to as if it conditioned matter and its motion and at another as if it were conditioned by matter and motion. The universe, which results, seems to be devoid of a certain amount of the concreteness and discreteness which ordinary experience and the elements and materials of the laboratory would lead us to believe it possessed. Yet the perplexing thing is that this theory, which seems to set off by itself in the realm of abstract mathematical relations and general philosophical principles, arises out of and fits the concrete world more thoroughly than the more concrete theories which the imagination as well as the reason can grasp. What I am saying is that the theory of relativity, in its traditional expression, is logically but not psychologically simple.

If we lived in the Greek period of science, when it was the accepted thing to believe that nature could never be truly perceived by the senses or grasped in terms of atoms by the imagination, but could only be understood by the reason, we could understand this theory. But here in this modern world, physics rather than mathematics is the dominant science. Moreover, for three centuries the concrete masses and forces that we can touch and weigh, and the chemical and kinetic theories with their atoms and molecules, which our imagination as well as our reason can grasp, have been most productive models for scientific thought. Hence the Platonic and exclusively rational aspect of this theory puzzles us and leaves us a trifle ill at ease. We hesitate to admit, and rightly, I believe, in view of the history of science before the seventeenth century, that we must give up the modern attempt to understand nature in terms of entities and laws which the senses and the imagination as well as the reason can grasp, and go back to the mathematical or functional conception of science which dominated it in the Greek period to produce the philosophy of Plato and Aristotle.

This point is not raised as an argument against the theory. That would be an entirely wrong turn to give it. As we indicated at the beginning, we are taking the validity of the theory for granted. The element of unnaturalness in the relationship between the mathematical and Platonic or Pythagorean emphasis of the theory of relativity, and the physical emphasis of it, and of such a large part of modern and extra-relativity contemporary science, is emphasized in order to indicate the significance of a question which needs to be considered. Is there not a physical basis for the philosophical



and mathematical principles of the theory itself, as well as for its origin and deductive consequences, which will enable us to grasp the universe which it represents, by the imagination as well as the reason, and thus fit it more naturally and precisely into our modern scientific outlook?

An answer to this question should clear up several points. There is, for example, the query of certain experimental physicists who ask how light can be transmitted if there is nothing to carry it. Providing that one is satisfied to give up the attempt to frame a physical model for physical phenomena, this question is beside the point and indicates a need for the person who raises it to study and understand Einstein's theory. One may reply to him that the attempt to find physical models for physical phenomena is often a useful but, on the whole, neither a necessary nor an important consideration; that the only thing of essential concern to the scientist is not the physical medium, but the mathematical law, by which light travels; and that the theory of relativity provides this. By such reasoning one may conclude that the occasion does not call for the discovery of a physical medium for light waves, but requires, instead, that our experimental inquirer change his scientific outlook.

Does this mean, however, that one is to discard an antiquated view which has been tried and found wanting for an absolutely new one which has been perfectly successful? Not in the least! Instead, it involves the rejection of a modern view for a most ancient, antiquated, and supposedly discarded one. The thesis that science is interested primarily neither in masses and forces observed by the senses, nor in electrons and ethers grasped by the imagination, but is concerned only with the mathematical principles which these physical models partially and imperfectly represent, was the dominant view of Greek inorganic science. It is, in short, the conception of the Greek mathematicians and philosophers, Pythagoras and Plato, from which, we have been telling ourselves for the last three centuries, it was such a blessing to have escaped. One must, indeed, have a little sympathy for our inquiring experimentalist, if after being drilled into certain habits of thought by three centuries of preaching of the physical and mechanical view of natural processes, he finds it difficult to completely reverse his procedure and embrace what he has been taught to believe is the enemy. The point is that there seems to be as much, if not more, evidence, even to-day, for the physical theory, in spite of its partial apparent breakdown in space-time theory and in quantum theory than for the purely conceptual and mathematical view of things. It is true that in certain instances the physical theory is developed first, in others the mathematical. These circumstances do not prove, however, that he



who asks for a physical model for a mathematical theory is without justification.

The other point, which is to be kept in mind in asking whether there is not a physical meaning for the fundamental principles which are expressed in mathematical terms in the theory of relativity, involves a more philosophical consideration. The work of Eddington, Weyl, and Whitehead suggests that the consequence of the theory is to necessitate the shifting of the outlook and foundations of science from the physical and atomic philosophy of nature which has dominated western thought since Galilei, Newton, and Dalton to either the Platonic or Aristotelian philosophy of Greek and medieval science. We know to-day how impossible it was in the seventeenth century for people to realize the tremendous change in the course of western civilization which the physical and mechanical philosophy of Galilei and Newton was to inaugurate. If the claims of Eddington, Weyl, and Whitehead are correct, it may well be that the theory of relativity will have as its consequence the turning of the main current of human interest into channels as different from those of the last three centuries as the modern period is different from the Greek or medieval. Certainly, if the mathematical conception of science replaces the physical one, it will be inevitable that mathematics rather than physics will become the dominant science in the centuries immediately ahead, that deduction rather than induction will tend to become the dominant scientific technique, and that theology supported by science, with its thesis that nature is a system of rational relations implying a mind, will tend to become a significant human concern. Is it to be a consequence of the theory of relativity to reveal for that line of thought which represents the course of western civilization, as it has for the straight line of the space-time universe, that it is possessed of a Riemannian circular property. If so, instead of taking us further and further away from the Greeks and Scholastics, contemporary scientific thought may be leading us back to them. An affirmative answer seems to be quite within the realm of probability as the writings of Eddington and Whitehead indicate, unless we can find a physical meaning for the purely mathematical essence of the theory of relativity. Even then, however, the significance of the rational and purely mathematical in nature, which the theory has revealed, indicates that a physical theory of nature, if there is one, will be very much closer to Greek scientific thought than our traditional physical theory has been.

It is evident, therefore, that there is need for a continuation of those studies, initiated by Eddington, Weyl, and Whitehead, and also by Einstein in his theory of the finite universe, which aim to express the meaning of the theory of relativity in terms of our conception of scientific law and of the nature of things.



It is because their analyses seem to be incomplete or inadequate in certain respects that the question concerning the physical meaning of the theory of relativity is raised. In this hesitation to accept immediately the Platonic or Aristotelian interpretations which Eddington, Weyl, and Whitehead have developed with such fruitful and stimulating effect upon our scientific and philosophical thought, I believe, that I am in accord with the author of the theory who has rejected the development which they follow<sup>2</sup> and who has been one of the few to insist upon a strictly physical interpretation.

There are three senses in which this is true. The first appears when he defines space and time in terms of coincidences between physical objects. He says: "All space-time verifications invariably amount to a determination of space-time coincidences. . . . Moreover, the results of our measurements are nothing but verifications of such meetings of the material points of our measuring instruments with other material points, coincidences between the hands of a clock and points on the clock dial and observed point events happening at the same place at the same time."<sup>3</sup> The second sense in which Einstein holds to a physical theory of space-time appears in the general theory when he is led to the conclusion that physical gravitational forces "define the metrical properties of the space measured."<sup>4</sup> The third appears in his generalization beyond the general theory in which he says: "In a consistent theory of relativity there can be no inertia *relatively to 'space,'* but only an inertia of masses *relatively to one another.*"<sup>5</sup> This clearly involves the thesis, as Whittaker has said, that "the metric of space-time may be determined *wholly* by the masses and energy present in the universe, so that space-time can not exist at all except in so far as it is due to the existence of matter."<sup>6</sup>

The question which we are raising may be put, therefore, in more explicit form. Must the space-time continuum of the general theory be defined in terms of matter? Many will be inclined to answer in the affirmative, and to point to the fact that Einstein has done precisely this in his generalization beyond the general theory to his theory of the cylindrical universe.<sup>7</sup> There are three considerations which suggest that the question is not so easily dismissed. One is the group of difficulties which have been emphasized by Eddington, Weyl, and Whitehead; another, certain facts which stand

<sup>2</sup> A. Einstein, *Math. Annalen*, Vol. 97, p. 100.

<sup>3</sup> A. Einstein, *Principle of Relativity*, Methuen, 1923, p. 117.

<sup>4</sup> Einstein, *ibid.*, p. 120.

<sup>5</sup> Einstein, *ibid.*, p. 180.

<sup>6</sup> Whittaker, *Science*, Vol. LXVI, No. 1706, p. 228.

<sup>7</sup> "Cosmological Consideration on the General Theory of Relativity," A. Einstein: *Principle of Relativity*, p. 175 ff.



out quite clearly when one considers the general theory, particularly, with reference to its historical origin; and the third is the fact that Einstein's theory of the cylindrical universe, in its present form at least, is as difficult to grasp by the imagination and relate to our traditional and contemporary atomic theory as the more mathematical theories of Eddington and Weyl. An adequate answer must go one step further. We may put it in this way. Even assuming that the difficulties raised by Weyl, Eddington, and Whitehead can be met by Einstein in his generalization beyond the general theory and that it can be accepted that the space-time continuum is definable in terms of matter, the question remains concerning the particular conception of matter we are to hold. Is matter continuous or atomic? If it is atomic, it certainly can not be conceived in terms of the traditional atomic theory. Otherwise, we should have a psychologically simple conception of the theory of relativity by merely picturing in our imagination the kind of universe which the traditional physical atomic theory involves. Furthermore, Einstein's attempt at a physical interpretation leads to a finite universe. The traditional physical theory presupposes an infinite one. It can not be taken for granted that a finite universe can be reconciled with a physical theory of nature without certain rather radical modifications in that theory. In addition, it seems to be quite evident that the theory of relativity indicates a unifying relational principle which the traditional physical atomic theory does not provide. The suggestion of Eddington, Einstein, and others that we are to look to quantum dynamics for a solution of this difficulty also seems to be inadequate. Recent researches in that field have indicated the same presence of a relatedness and structure requiring us to go beyond a purely physical to a partially, if not completely, mathematical theory<sup>8</sup> which the space-time problem involves. The quantum theory, instead of being in a position to provide a physical meaning for the theory of relativity, seems to be calling for help upon precisely the same point. In short, whether we consider the universe in its macroscopic aspect as revealed in space-time theory, or in its microscopic details as expressed in modern atomic theory, or one may add, mid-way between these two extremes in the living organism, we find ourselves face to face with an organization or a relational factor which the traditional physical theory of discrete particles is incompetent to express. This is the reason why, notwithstanding Einstein's theory of the cylindrical universe, we find it so difficult to fit the theory of relativity into our traditional physical outlook. The traditional physical atomic theory does not have within it the deductive fertility to give rise to the elements of struc-

<sup>8</sup> See paper by Prof. W. F. G. Swann entitled "The New Quantum Dynamics," read before Amer. Assoc. for Advancement of Sc., Philadelphia, 1926.



ture and relatedness which contemporary scientific analysis has revealed.

If it be maintained, therefore, that Einstein has demonstrated the possibility of defining space-time in terms of matter, the question still remains concerning the particular theory of matter which it involves. It seems to require more than the traditional one. It follows that an adequate treatment of the problem concerning the meaning of the theory of relativity must answer two questions. Firstly, does the theory possess or presuppose a physical interpretation? Secondly, what specific modification, if any, in our traditional atomic theory must be made to provide such an interpretation?

In asking whether the theory of relativity is a physical theory we raise the question concerning the relation between space-time and matter. To this question there are three possible answers. One is that space-time must be completely defined in terms of matter. This is Einstein's position. The second is that matter must be defined in terms of space-time. This is Eddington's theory.<sup>9</sup> The third is that there is both space-time and matter. Weyl and Whitehead agree upon this. The differences between their theories need not concern us now.

That, in terms of which everything else is defined, we shall call ultimate. Since space-time when considered as an ultimate factor can only be made explicit in terms of mathematical principles, to define matter in terms of space-time is to reduce physics to geometry, and to maintain that the ultimate in nature is not physical, but rational. This was the dominant philosophy of science of the Greek period. It is uniquely designated by the principle that the real is rational. This principle asserts that the ultimate in nature, which is independent of the observer and his relation to it, is not a group of atoms or objects which can be grasped by the imagination, or perceived by the senses, but a system of purely rational, and hence mathematical, relations which can only be conceived by the reason. From this it follows that masses and forces are purely psychological appearances resulting from an interaction between the observer and the eternal, changeless mathematical relations which are their condition. In the words of Plato, the world of change, the world of sensation, is a world of shadows, the world of eternal logical forms is the real world; in the words of Eddington<sup>10</sup> the circular system of logical connections, which joins matter, mass, potential, etc., to each other is the absolute fact of modern physics, whereas the physical categories which we have taken for the ultimate thing are but transient terms in this relational system.

Since logical connections and systems of mathematical relations

<sup>9</sup> A. S. Eddington, *Space, Time and Gravitation*, Cambridge, 1921, p. 197.

<sup>10</sup> *Religion and Reality*, Macmillan, p. 205.



are changeless things, to define matter in terms of space-time is to hold, not merely that the real is rational, but also that it is changeless. This latter fact, which is as true for a physical as for a mathematical or for a Platonic theory of science, the Greeks designated by the principle of being. This principle affirms that whatever it is that constitutes the nature of things does not change its properties. It amounts, in other words, to the assertion that time introduces nothing new with reference to the properties of the real. It is the basis, therefore, of the principle of mechanical causation. For this latter principle affirms that a given effect can be traced back to present or past conditions, or that knowing the present conditions one can predict all future states. This can be true only if time introduces nothing new with reference to the properties of the ultimate causes; or, in other words, if the principle of being holds. Therefore, to be a mechanist, is to assert the principle of being.

It is to be noted that the physical and mathematical or Platonic theories of science agree in accepting the principle of being. The ultimate physical atoms, like mathematical laws, are eternal changeless elements. Both theories are, therefore, mechanical. One can predict as well in Platonic science as in physical science, as the astronomy of Eudoxus or the tensor equation for gravitation indicates. The mathematical and physical theories are both mechanical; they differ only in their second principle concerning what it is that constitutes the real, the former asserting that it is rational, the latter that it is physical. Therefore, to hold that space-time is definable in terms of matter is to assert the principle of being and the principle that being is physical; to maintain that matter is definable in terms of space-time is to assert the principle of being and the principle that being is rational. The former is the physical and mechanical philosophy of modern science; the latter, the mathematical, mechanical, and Platonic philosophy of Greek inorganic science. The issue between Eddington and Einstein involves nothing less, therefore, than the question concerning whether the theory of relativity necessitates the shifting of the structure of science from the physical foundations upon which it has rested since the seventeenth century to the rational, mathematical, and Platonic foundations upon which it rested in the Greek period. Is that in our universe which is independent of the particular place where a scientist happens to stand when he observes natural phenomena so purely rational and relational that it can only be grasped by pure mathematicians? If matter must be defined in terms of space-time we must answer in the affirmative and regard Plato as a scientist with sounder insight than either Galilei, Newton, or Dalton. If not, then the theory of relativity can fit into our modern



outlook and should find its meaning in terms of objects that ordinary mortals, as well as pure mathematicians, can grasp.

But there is another alternative. Perhaps neither is completely definable in terms of the other. Both space-time and matter may be conditions of natural phenomena. This position, held by Weyl and Whitehead, amounts to the assertion that there is in nature both matter and form. Hence, it involves a return to Aristotelianism.

We are now able to state, in more general terms, the problem concerning the relation between space-time and matter, which is raised by the theory of relativity. It is the problem of the relation between things and their relations. Do things reduce to relations, do relations reduce to the properties of things, or are there both things and relations? The first alternative is the Platonic mathematical theory of nature, the second, the physical atomic theory, and the third, Aristotelianism.

We thought Galilei, Newton, and Dalton answered this question once and for all in favor of the physical theory of nature. The theory of relativity has indicated, however, that their answer is not as decisive as we supposed. This, as much as any particular addition which it has made to technical physics, is its great significance. It has cut down beneath the presuppositions of modern science into that question concerning the relation between things and their relations which is the timeless theme of all science, be it Greek, medieval, or modern. For the first time since the seventeenth century the first principles of science are in question, and the issue between Platonism, Aristotelianism, and the physical theory, which during the last three centuries has been of interest only to philosophers, now becomes of concern to physicists as well. This is significant for both philosophers and physicists. For the former, it means that contemporary physics may provide a means of putting a fundamental issue of philosophy to an experimental test. For the physicists, it means that careful consideration of the fundamental principles of Greek philosophy and their consequences may enable one to infer, from the facts of contemporary physics, conclusions which the facts alone might not suggest. It follows, also, that an adequate treatment of the meaning of the theory of relativity requires that we view it in a scientific background very much broader than that of the last three centuries.

It will be worth our while, therefore, before we turn to an analysis of the theory of relativity itself, to determine the principles of the three major theories of science, and their respective consequences. We do not propose to solve the problem in relativity physics by such an analysis, but merely to discover a set of hypothetical propositions asserting the consequences of certain possible positions, which will



enable us later, if facts in physics permit us to assert the antecedent of one of these propositions, to also assert its consequent. Thus, by bringing established hypothetical propositions of philosophy to bear upon the facts of physics, we may be able to reach conclusions which the facts alone might not suggest. Certainly, the problem which divides Einstein, Eddington, Weyl, and Whitehead is sufficiently difficult to warrant all the aid we can get, and there is no sense in standing helplessly before it in disagreement when principles already known, but outside the modern tradition, may help us to solve it.

It remains for us to add but one principle to those which we have already stated in order to have before us all the principles sufficient to define the mathematical, physical, and organic theories of science. This principle is the principle of becoming. It asserts that the properties of the real, change. In other words, it asserts that time introduces something essentially new in the properties of the first causes. From this it follows that the future is not entirely determined by the present, and, hence, that mechanism is not valid. Therefore, if the principle of becoming holds, the principle of teleology is also true. For to assert that time introduces something new in the properties of the real is to maintain that future and final as well as past or present factors determine the course of nature in its passage from what it is now to what it is going to be. This explains why Aristotle, who accepted the principle of becoming, was a teleologist.

The four fundamental principles, in terms of which any one of the three possible theories of science can be defined, are now before us. They are the principle of being, the principle of becoming, the principle that the real is physical, and the principle that the real is rational. To assert the principle of being and the principle that the real is rational is to hold to the mathematical or Platonic theory of science; to assert the principle of being and that being is physical is to hold to the physical theory of science; and to maintain that the real is becoming is to hold to an "event" or emergent or Aristotelian theory of science. The first two theories are mechanical; the latter, teleological.

It is necessary to indicate how the Aristotelian theory that nature is matter and form, or in its contemporary statement, matter and space-time relatedness, necessitates the principle that the real is something that changes its properties,—a process or "event," and not a collection of atoms or a system of relations. The reason is that, if matter satisfies the principle of being, there is no meaning to a relation apart from the properties of the thing related. A law is not an additional metaphysical entity standing over against matter and forcing it by some mysterious means to move in certain ways; it is



a mere statement of how matter does move and relate itself as a result of its changeless properties. Aristotle clearly perceived this when he asserted that there is no meaning to form apart from individual things which exhibit form. Since this is so, but two alternatives are available. Either, one must assert, as do the materialists, when they are consistent, that all relations reduce to the properties of things, or one must regard relations or form as a characteristic of something else of which matter is another characteristic. The latter alternative enables one to maintain that form is a characteristic of something which exhibits form, and to escape the conclusion that all form or relatedness must be defined in terms of matter. This makes both matter and form passive characteristics of something else. If change is real this "something else" must change its properties with time. Otherwise, nature would be a static and not a dynamic system. Hence, the admission of both matter and space-time as irreducible, the one to the other, necessitates the thesis that the real is becoming,—an "event" or process which changes its characteristics, and not an entity, either physical or mathematical, with fixed properties. Since space-time relatedness applies to the whole of nature and not merely to its parts, it follows, if the fallacy of regarding relatedness as a metaphysical thing-in-itself is to be avoided, that nature must be a single process and not a group of processes. The relation which joins the parts of the process together to form the whole turns "individual things" into aspects of the process of the whole just as the form of a local isolated system turns the matter of that system into a characteristic of a process of becoming. This does not appear in Aristotle's philosophy because his desire to regard particular individual things as real prevented him from carrying his thesis that forms are meaningless apart from things, through to its logical monistic consequences. It comes out clearly, however, in Whitehead's theory of events when he maintains that the only statement about nature which does not oversimplify it and hence falsify it, is a statement about the whole of fact, to the effect that nature is "something going on now." Strictly speaking, according to his and any consistent philosophy of becoming which admits structure in the whole of nature as well as in its parts, there is only one process or "event" in nature. It must never be forgotten, therefore, that the attempt to solve the problem concerning the relation between space-time and matter by refusing to define either in terms of the other, is not to keep electrons and protons and space-time, but to lose both as ultimate causes. They must be regarded as passive, relational, and adjectival characteristics which repeat themselves in a monistic teleological process of change. Electrons preserve their individuality only in the mind of the



thinker, due to an over-simplified abstraction which he makes; never, in "the concrete passage of nature."

The result of this analysis may be stated in terms of two hypothetical principles.

(1) If the theory of relativity is a physical theory then space-time must be defined in terms of the relations to which the properties and motion of physical things give rise.

(2) If space-time is even partially indefinable in terms of matter then either (a) matter must be defined completely in terms of space-time, or (b) nature is a monistic process of becoming in which objects and space-time are mere passive adjectival and relational appearances.

The relation of the mathematical and the physical theories of science to the fact of change is equally important. Strictly speaking, to define matter in terms of an irreducible continuum is to define it in terms of the one; and to define it in terms of a space-time or mathematical continuum (since relations which depend on nothing else are changeless things) is to regard the one as changeless and hence as satisfying the principle of being. From this it follows that change must be unreal, i.e., it must be a relation between the observer and the object and not a characteristic of the object. This Plato clearly perceived when, in formulating the first mathematical theory of science, he said that the real is changeless, eternal, and immutable. Parmenides' proof that change is unreal, if the real is one and is being, is simple. Either change is due to generation or to motion. It can not be due to generation, since that is contrary to our hypothesis that the real is being. Neither can it be due to motion, for in order that one thing may move, it must move from where it is to where it is not, and this is impossible if there is nothing but the one. A third hypothetical principle is now available for our use.

(3) If matter is definable in terms of an ultimate continuum, and this continuum is a system of mathematical relations, then all change is unreal.

The relation of the fact of change in nature to a physical theory of science is so important in connection with Weyl's and Whitehead's objections to the theory of motion in Einstein's physical theory, that an account of Greek thought upon this point is essential. It was the difficulty over accounting for change in a physical theory of science that led to the introduction of absolute space. Anyone who attempts to give the theory of relativity a physical interpretation after it has removed the notion of absolute space, is inviting trouble, therefore, unless he is thoroughly aware of the difficulties over reconciling matter with change which the Greeks clearly perceived.

The first fact which they noted was that this is a universe of



stuff. This commonplace fact is the basis of the physical theory of nature. This fact, we have stated in terms of the principle that the real is physical. They noted also that the main characteristic of stuff is permanence. Hence, they went on to lay down the second principle in a physical theory, to the effect that the real is being.

Immediately, a difficulty arose. If stuff is being, how can change be real? Parmenides demonstrated that it can not be real if reality is conceived to be only one substance or many atoms. The proof is valid. He argued that change must be due either to generation or to motion. If the real is being it can not be due to generation. Therefore, it must be due to motion. But it can not be due to motion, for there is no meaning to the motion of anything unless that relative to which it is moving is specified. This is impossible if the real is one. Therefore, stuff must be many, but this is impossible if the real is physical and stuff is nothing but microscopic particles, since, in order that there be particles there must be something to go between them, which is impossible if they are all that exist, and in order that change be real they must move relatively to something else, which is impossible for the same reason. Therefore, Parmenides concluded that the fact of stuff plus the laws of logic force one to hold that nature is one single changeless eternal substance and that change is an illusion. Heraclitus took the other alternative, by holding to the fact of change, emphasizing the constancy of the law exhibited in the process of change, and denying the primacy of the physical.

Logic seemed to require that one choose between two theories, either one of which necessitated the denial of a certain fact. In other words, nature, when carefully observed, revealed two facts which contradicted each other. This is exactly analogous to the situation which Einstein faced when he noted the principle of relativity and the principle of the absolute velocity of light to be valid, and yet contradictory, in the electro-magnetics of Lorentz. Furthermore, the Greeks met their contradiction with the same sound logical procedure that Einstein used in meeting his. They argued that since stuff and change are both facts and nevertheless contradict each other, therefore, the unproved assumption upon which the contradiction rests, to the effect that nature is only one substance or many atoms, must be replaced by the principle which makes both facts true without contradiction. This principle is that nature is a group of atoms separated by and in motion relative to something else. Just as Einstein argued from two apparently contradictory facts to the relativity theory, so the Greek philosophers, who followed Parmenides, argued to the atomic theory.



Nature is not mere stuff, conceived either as one or many, but is a group of atoms separated by and in motion relative to something else. This "something else" the Greeks called absolute space. Thus, at its very inception, the physical theory was forced to a theory of absolute space in order to reconcile itself with the fact of change. This point has not received the attention it deserves from those who hold that the theory of relativity is a physical theory. How there can be any meaning for motion in a physical theory, now that absolute space is rejected, has not been made clear.

Two points must be noted. In the first place, an atomic theory is useless unless it is a kinetic atomic theory. The only reason for regarding matter as atomic, is to account for change, and this is impossible unless the atoms are in motion. This fact we can state in terms of another hypothetical principle.

(4) If the theory of relativity is a physical theory and change is real, it must be a kinetic atomic theory.

In the second place, it is to be noted that our statement of the proof of the atomic theory is different from the one which the Greeks gave. They argued that the facts of stuff and change plus logic necessitate that nature be regarded as made up of atoms in motion in absolute space; we stated that it proves merely that the atoms are separated by and in motion relative to something else. Their conclusion does not follow unless absolute space is the only possibility. This is a proposition which they did not demonstrate. This point is significant now that Einstein has removed absolute space. It suggests that perhaps the Greeks were too hasty in regarding their argument as proof of the existence of absolute space, rather than of some other referent for atomic motion. This suggests also that it may be in a new physical theory of this other entity that a physical meaning for the theory of relativity is to be found.<sup>11</sup> At the present stage of our analysis this, however, is mere conjecture. The certain thing which we can write down is that

(5) If the theory of relativity is a physical theory and change is real there must be something other than the microscopic particles in which and relative to which they are moving.

If space-time is defined in terms of matter it is not clear what this referent for motion can be. This is one basis of Whitehead's and Weyl's objection to Einstein's attempt to define space-time in terms of matter.

It is to be emphasized that this difficulty can not be met by substituting space-time for absolute space. For, as our first and fourth hypothetical principles indicate, if the physical theory is to be justi-



fixed, motion must be presupposed in defining space-time. A vicious circle would result, therefore, if space-time were introduced to provide a meaning for motion.

A thorough discussion of this point must wait, however, for an analysis of the theory itself. In such an analysis these five hypothetical propositions must be kept in mind. They permit us to assert the respective consequent, when the antecedent of any one of them is confirmed by any contemporary fact of relativity physics.

Three main points will serve to emphasize and summarize the essential considerations which are expressed in these five principles.

(1) If the theory of relativity is a physical theory and if change is a physical and not a purely psychological fact, then space-time must find its meaning in terms of a kinetic atomic theory, and some entity, replacing absolute space, must be introduced to provide a meaning for atomicity and motion. (2) If matter must be defined in terms of space-time then physical change is unreal. (3) If there is both matter and space-time, irreducible the one to the other, then the modern conception of electrons and protons as individual things out of which nature is constituted must be rejected, and replaced by a statement of the facts and laws of physics and mathematics in terms of nature conceived of as an essentially unanalyzable and indivisible process of change in which certain structural attributes called space-time and certain adjectival characteristics called objects exhibit themselves as standing in many terms relations to each other and the whole.

It remains for nature, as revealed through Einstein's experimentally verified theory, to tell us which of these alternatives is true. A study of the theory itself, its implications and presuppositions, with particular reference to the problem of the relation between space-time and matter, should decide this question.<sup>11</sup>

F. S. C. NORTHROP.

YALE UNIVERSITY.

## KALLEN'S CRITICISM: A REPLY

IN Mr. Kallen's review of my *Wrestle of Religion with Truth*<sup>1</sup> he writes that he can not join issue with me in the criticism I make of his own book because I misunderstand him. After reading his review I conclude that our misunderstanding must be reciprocal and amazingly complete. I shall not, then, "join issue" with him; but it may be of some value to try to clarify one or two points involved in his criticism.

<sup>11</sup> See article entitled "The Macroscopic Atomic Theory: a Physical Interpretation of the Theory of Relativity" in next issue of this JOURNAL.

<sup>1</sup> This JOURNAL, Vol. XXV, pp. 273-278 (May 10, 1928).



Apart from his attack on Whitehead Mr. Kallen's chief points of criticism seem to be two. One is my alleged attempt to make religion "scientific" with consequent "obfuscation" of religion and distortion of scientific method. The other is my serious mistake of trying to base religion upon an experience of "ultimate substance." When certain distinctions under these two headings are made plain his criticisms will be found, I think, to be beside the mark.

Scientific method is a term which has two different meanings in current usage. Sometimes it means in general the method of observation, analysis, inference, and experiment. Its narrower and stricter meaning, however, is the peculiar refinement and limitation imposed upon observation, analysis, inference, and experiment when these are brought under the control of mathematical formulas and mechanical instruments. It may be that the latter only is deserving of the title of scientific method, but nothing is more unprofitable than to dispute what is the proper usage when people do in fact use a word with both a broader and a narrower meaning. I make it very plain in the book under discussion that it is absurd to try to make religion scientific in the sense of subjecting its beliefs and practices to the control of scientific method in the second of the two meanings of that term. With that understanding of "scientific," religion can never be made scientific any more than friendship or politics or morality or cultural education of youth, because these interests involve problems which are not amenable to the technique of the exact sciences.

But the method of observation, analysis, inference, and experiment can be used in some rough manner in friendship, politics, and morality, for that means merely to be intelligent in the prosecution of these interests. This is the method of intelligence. Intelligence, to be sure, is rarely exercised in its purity, even in the exact sciences, because of the admixture of "blind" traditionalism, routine habit, wild guesses, fantastic constructions of imagination, obsessions, etc. But the method of intelligence is the only alternative to slavish conformity and fantastic wildness.

My only claim for religion is that it also should be subjected to the method of intelligence. If this means "making it scientific," well and good. If this means not making it scientific, also well and good. But there are many exceedingly important problems in friendship, love and marriage, morality, politics and religion, which can not so much as be considered by any of the exact sciences. To adore science in the sense of the exact sciences, as the way to all knowledge, the means to all mastery, and the panacea for all ills, is to misunderstand most egregiously the scope and nature of strict scientific method.



Mr. Kallen implies in his review that the method of retiring to solitude, meditating, acquiring insight, and testing that insight by the adventures of living is somehow foolish and futile. He writes that it "characterizes itself in its own summing up . . . adds to the current obfuscation and obscurantism by befogging such clear and distinct ideas as it [religion] has." Does Mr. Kallen mean that this is not the scientific method in the narrow sense? Then he is certainly right and I have nowhere suggested anything to the contrary. But does he mean to claim that the most difficult and complex problems of human living never require one to meditate and acquire insight and test that insight by the adventure of living? Apparently that is precisely what he is saying. Must we, then, not conclude that his statement "characterizes itself in its own summing up"?

Another set of terms found in my book, which are very disturbing to Mr. Kallen, are "ultimate cause," "supreme good," and substance. Only in two chapters do I make use of these terms and then solely for the purpose of meeting in controversy certain views which are sometimes couched in such language. As matter of fact I wrote those two chapters after listening to a lecture by one of the leading philosophers of the United States who discussed religion in terms of "ultimate cause" and "supreme good," presenting a view I could not accept. I used his language to combat his position. I fear Mr. Kallen is under misapprehension when he feels that his own book was the chief matter of concern in one of these two chapters.

The concept of substance plays an insignificant rôle in my discussion of religion. I use the term incidentally and without any of that connotation which Mr. Kallen reads into it. He fails to note the context in which it occurs, which gives it a different significance from what he attributes to it. In the book I show that a certain kind of mystical experience involves the disorganization of habits without loss of consciousness and that it is therefore a state in which one experiences the substance or content out of which divers worlds might be constructed, but which is not itself a world. All I mean by this is that a man's habits constitute one of the factors determining the kind of world in which he lives. When his habits are disorganized this determining condition of an articulate world is removed. Hence he has no articulate world, but he has that content of experience out of which different worlds may emerge according as he develops out of this disorganization one set of habits or another. This confused inarticulate state of the mystic's consciousness is an experience of substance merely in the sense that out of it different worlds may be constructed according to the kind of habits acquired.



Mr. Kallen errs when he thinks that I identify God throughout with the "substance" which the mystic experiences. God can be so conceived and often has been; but all I say is: "If God be defined as the object of this mystic experience," certain consequences follow. In another place I also indicate what would follow if God be so considered. But that is not the way I define the concept of God throughout the book; and these are the only two cases, I believe, where I give this thought any consideration.

When the *New Republic* asked me to review Mr. Kallen's *Why Religion* some time ago I was glad to have the opportunity, for I had always been stimulated by his brilliant writings. But the contents of the book and my review of it reveal why his disagreement with me is so emphatic. If my view of religion should be correct, his own religious experience would take on a wholly different character from what he attributes to it. He attained this experience by submitting to long discipline under the direction of an expert yogi—or rather two of them. He believes that in this experience he had immediate access to the supernatural, which is a "mode of vibrant energy" breaking in upon us occasionally with "truly saving power." I have a wholly different account to give of the kind of experience he has in mind.

While I can scarcely expect that Mr. Kallen and I will agree upon the matter of religion when our backgrounds are so radically different, I do hope that we may come to a better understanding of one another.

HENRY NELSON WIEMAN.

UNIVERSITY OF CHICAGO.

### BOOK REVIEWS

*Principia Mathematica*. ALFRED NORTH WHITEHEAD and BERTRAND RUSSELL. Second Edition. Cambridge, at the University Press; and New York: The Macmillan Company. Vol. I (1925). Pp. xlv + 674. Vol. II (1927). Pp. xxxi + 742. Vol. III (1927). Pp. viii + 491.

When this great treatise first came out, with its pages that look something like hen-tracks on the barnyard snow of a winter morning, there were those who accused the authors of trying to conceal the secrets of the universe under an incomprehensible hieroglyphic cipher, and who said that the universe itself was more comprehensible than was this book about it. But we who did seriously try to read it, and succeeded without much trouble, for its language is very simple for those who try—we knew how silly such opinions were. We came rather to like the language, with its *p*'s and *q*'s, and its



*phi-x-caps* and *R-backward-arrows*, and *existences-with-a-shriek*, and *existences-upside-down*, and so on, even up to the mysterious generalization called the *female-relation*, and the hypothetical majesty of *Aleph-sub-zero*. We tried catching one another on such puzzlers as, "What is the difference between *limax* and *multax*?" But no one is competent to criticize the *Principia* philosophically who could not rewrite its statements in another symbolism, or think back of the symbolism the meanings which are there expressed. And one who can do this will have no illusions about the finality of the work, or its world-inclusiveness. It is true that this is a study of the foundations of mathematics, which arrives, in this edition, at the number *one* after 392 pages, and at the *multiplication table* after 852 pages. And it is not merely a great work in bulk, but also a great work in labor expended, in ability, and in ingenuity. But it is not a work of metaphysics.

The history of the critical examination into the foundations of mathematics, an examination of which this work is one of the great landmarks, is a history which ought, in its general outlines, to be fairly familiar to all philosophers. On the one hand there was the collapse of what seemed solidly established regions of mathematics. On the other there was a demand almost amounting to an ethical imperative for the utmost of mathematical rigor, a demand which is still insistent and perhaps still not fully realized. I for one shall never forget how Professor Royce used to phrase this, as an imperative imposed by the mathematician's intellectual self-respect, and his loyalty to truth and precision. Through the nineteenth century the whole structure of mathematical science was reviewed from this standpoint, with an austerity of scrupulous care which admitted no compromise. It was shown that certain mathematical objects, such as infinitesimals, which had been held by the philosophers as a standing reproach against mathematics, could be dispensed with altogether. While in metrical geometry there were quantities, such as a unit of space length, which could not be deduced from anything simpler, the assumption of one such unit was found to be enough, and all the rest of geometrical structure could be handled by methods of projective geometry, as being cases of order and arrangement. So mathematics came to be looked upon as the science of groups and orders, rather than the science of quantity. Its application to quantity was incidental, and chiefly of note because quantities could be so readily ordered.

Furthermore, the non-Euclidean geometries showed that internally consistent mathematical systems could be built up from a variety of opposing starting points, some of which were by no means self-evidently true. The self-evidence of axioms was still



further shaken by examples of what seemed self-evidence which turned out to be definitely false, as in the supposed axiom that every continuous curve has tangents. So mathematicians grew wary of self-evidence, and began to speak of the assumptions, or postulates, of a mathematical system, rather than of its axioms, and often the most fertile, or most simple, assumptions were found to be by no means the most self-evident.

But above and beyond all this there was a steady process of unification, the arithmetization of all mathematics. As a result of this process of unification, it was shown that the validity of the deductions of all the higher branches of mathematics depends upon, and may be justified by, the validity of the deductions of simple arithmetic. Hence simple arithmetic became the key to all mathematics. Could it itself be deduced from anything more fundamental?

Kant seems to have held that each arithmetical truth is a separate synthetic judgment, as two plus three equals five. Whether we call them synthetic, depends perhaps on our use of terms, for there is a sense, though Mr. Russell appears to wish to deny this, in which all deduction is synthetic. But that the truths of arithmetic are separate and isolated seems definitely false. To find any connection, however, means to analyze back to some more fundamental relations, which being pre-arithmetical, we may speak of as "purely logical." The technique for carrying out such investigations has been the so-called symbolic logic, which was first developed by Boole with the intention of using mathematical methods in logic. It was inverted by some later investigators, such as Peano and Frege, with the intention of reducing mathematics to logic, and the *Principia Mathematica* before us is the culmination of this movement. Of course, there are other symbolic logicians who are not at all interested in mathematics, but in developing a symbolism for the easy handling of complex combinations of ordinary premises in reasoning. This is a totally different aim, and calls perhaps for a different technique and symbolism.

Two comments immediately present themselves concerning the mathematical evolution. The process of development has been moving backwards, from higher mathematics till it has reached arithmetic and then logic. Hence there may be a sense in which the deductions are surer than the first premises. And also the *Principia* really is not a work that goes back to the ultimate foundations. It begins somewhere in the middle, postulating a system of logic which perhaps is not yet fully developed, and developing not logic, but the link between logic and ordinary mathematics. Hence its first pages are decidedly tentative, and even intentionally temporary.

Secondly, it might be asked whether this starting point should



be called by the old name "logic." Though it deals with the conditions of formal validity, with precisely that which is supposed to differentiate deductive logic from the psychology of thinking, it as certainly does not deal with thinking as a process, but rather with a subject-matter as objective as is mathematics itself. I am disposed to believe that Messrs. Whitehead and Russell would do well, on the basis of their own theory of types, to distinguish more clearly between "logic" and the propositions they utter about "logic." The difficulty is rendered very grave by the fact that one's symbolism has itself a logical structure, and that it may play you tricks by having a structure different from the structure you are trying to talk about. I have long ago given up hope of finding out precisely what Mr. Russell now means by the term "proposition." Certainly it can not be intended that all mathematics can be deduced from a science about symbols, instead of from a science that uses symbols to deal with its highly general subject-matter. Regarding the name "logic," I regret that the biologists long ago appropriated the name "morphology," while the term "logistic" is inaccurate, as applying only to the symbols and their technical manipulation, as well as being one to which the military men have put in some claim. About all we can really do about it is to distinguish between "structural logic" and "noetic logic."

Is it necessary that philosophers should know about this structural logic? Some there are who say they have examined it, and found nothing there. If most of these people did not make such stupid errors, which a knowledge of this subject ought to prevent, I should be more inclined to grant their contention. But I have no wish to limit philosophers by saying that there is anything that they really have to know before they begin to philosophize. All I should claim is, that I doubt if ignorance of the *Principia* is really a merit in a philosopher. Yet certainly, except at Harvard, where the tradition which Professor Royce and Mr. Russell himself started has been ably carried on by Messrs. Sheffer and Lewis, it seems hardly to attract any attention in this country. I used to lecture on this sort of logic elsewhere myself, employing ordinary language, and leaving the symbols aside until students had grasped the general ideas, and had come to feel the need of symbols for the sake of simplicity, clearness, and saving of time. It was a pretty hopeless task. I drew some interested mathematicians, and a few stragglers from the philosophy department. I remember one student, a philosophy student of real ability, who arrived the first day with a large notebook. After listening for a while, he interrupted with a puzzled question, "But this subject which you call 'logic'—what has it to do with Professor Dewey's 'logic'?" I answered, perhaps with



too much asperity, "It has nothing whatever to do with Professor Dewey's 'logic.'" "Well, then, I do not see any reason for staying here any longer," he said, as he tucked his notebook under his arm, and disappeared out the door, nor did I ever see him again.

In a review like this I can hardly undertake to present enough of the subject of these great volumes even to bring out some points on which I should like more enlightenment. Since conditions compelled me to turn to other things, I doubt if I am any longer particularly competent in these questions. Yet I think a little further comment may be of use. In this edition, the third volume is reprinted, and the other two corrected and reset upon a somewhat larger page, with some additions, especially as outlined in a new introduction. The work of Dr. Sheffer is given very high praise, and the chief additions are references to the work of Sheffer and Nicod, and some further wrestling with the awkward "axiom of reducibility." From Sheffer's "stroke-relation," of incompatibility (not-both-true), one is able to develop "and," "or," "if-then," etc., in a way which brings out their mutual interdependence, and is as ingenious as getting rabbits out of a hat. And then one can state, in the stroke notation, Nicod's one proposition from which, once granted, all mathematics follows. This fateful proposition I may paraphrase, rather crudely and intuitively, in words as follows: "If a proposition  $p$  implies other propositions such as  $q$ , then not only does every proposition imply itself, but also any proposition inconsistent with  $q$  is inconsistent with  $p$ ." From this all the propositions of all mathematics can be deduced, provided you have the brains, and the *Principia* gives the essentials of this deduction.

In this edition the distinction of real and apparent variables disappears, all being of the latter variety. In fact, variables are whatever does not vary! The symbolism is helped out by a new dictionary of definitions—or what we should ordinarily call a dictionary of abbreviations. Perhaps the worst fault of the work is that there are so many of these, yet it seems hard to avoid abbreviating, if every statement is not to cover a page, as in Frege. Doubtless historical accidents account for a goodly number of the symbols, and improvements could be made, though many objections to the symbols have been really objections to the distinctions which the symbols embody.

According to Mr. Russell, the theory of types is entirely a question of the proper use of symbols, and some sort of theory of types is necessary to avoid contradictions. Such a contradiction is that of "the class composed of those classes which are not members of themselves," which class, if it is not a member of itself, is a member of itself, and *vice versa*, if it is, it is not. Additions to the present



text investigate an alternative to the "axiom of reducibility," which axiom was called for by the problem, raised by type difficulties, of talking about *all* the characteristics of an object. The alternative is admittedly unsatisfactory. I should extend the unsatisfactoriness to the whole theory of types. I am disposed to agree that some sort of theory of types is needed. But the present one seems almost certainly too broad.

I think the theory as developed by the authors of the *Principia* is trying to meet two rather distinct sorts of fallacies. It tries to meet, for instance, such difficulties as are contained in the assertion, "This statement is false." The contradiction is here that the statement formally claims truth, like all assertions, and yet materially claims falsity, through what it says. But when this is stated in the form of the notorious Cretan's declaration, "All Cretans are always liars," it contains this fallacy compounded with another, that of illegitimate totality. This latter I do not think is due merely to the symbols used.

Such a difficulty may occur in cases wherein I can discover no puzzle about symbols. To illustrate, let us suppose, or hypothetically postulate, that a man's actions are determined by various causes, of which some are his possession of bits of relevant knowledge. The vagueness attaching to the term "cause" does not seem to me to affect the main issue of my argument, nor need we raise the question whether the assumed case is in correspondence with actual fact. Let us now suppose that the man knows all the sum of causes which are leading him to act. He will then perceive that he is about to, let us say, write a letter, owing to the concurrent action of the sum total of these causes. But being a contrary sort of person, this knowledge becomes itself a new cause, which, added to the other causes, produces an effect of refraining from writing a letter. But being a very contrary person, this in turn becomes an adequate stimulus to him to write the letter, and so on. Whichever way it is, it is the opposite. This illustration seems to me to show that the difficulty is one about the totals themselves, and not about symbols of totals. It seems further to lead to the conclusion, in accordance with the theory of types, that no part can be defined in terms of, or be caused by, the whole of which it is a part. But it may now be objected that such a simple case as a color-contrast illustrates the contrary. The blue and yellow form a whole, wherein the blue becomes bluer against the background of yellow, which makes the yellow look yellower, which makes the blue look bluer, and the senses make the sum to infinity almost instantly. How then assert that a part can never be made what it is by the whole of which it is a part? Empirical evidences, not to speak of Mr. Whitehead's own theory



about organic unities, seem to establish the possibility of the contrary. Yet contradictions due to illegitimate totalities do exist, and are so bad that whatever we say about them, affirming or denying, we equally fall into contradiction. If we deny that a class can be a member of itself, we fall into the contradiction just as if we asserted that it could. I feel the difficulties, but the theory of types seems to go too far, and throw out the baby with the bath.

But it is hard for me to argue the matter further without raising still more sweeping objections. It is laid down in the new introduction to the *Principia*: "Given all true atomic propositions, together with the fact that they are all, every other true proposition can theoretically be deduced by logical methods." Atomic propositions, it may be explained, are those like "*a* has the quality *m*," "*a* has the relation *R* to *b*," "*a*, *b*, and *c* have the triadic relation *S*," and others of like kind, containing only *one* relation, and having no reference to *all* of anything. This means or implies a number of conclusions of which I am very doubtful. I may remark that the qualifying clause, "The fact that they are all," contains something which is not an atomic proposition, but which is of great importance, and is contained in all universal propositions, and possibly in all negative ones as well. But this aside, the statement seems to amount to saying that the world is made of a set of atomic "facts" or "complexes," each containing only one quality or relation, and each referred to by one atomic proposition, if the fact and the proposition be not identical. Hence the only relation of these facts to one another is that of mutual coexistence. Hence the only systems are mere sets of coexistent, mutually independent facts. Why, then, say there are any systems? This is perhaps the reason why Mr. Russell can find no cases of Professor C. I. Lewis's relation of *strict* implication. But this is not all, for furthermore it is implied that any universal proposition is a mere sum of individual atomic propositions, alike but independent. This is perhaps the reason why Mr. Russell can find no basis for the inferences called "inductive." It implies also that any statement about possibility is reducible without remainder to a sum of atomic propositions about what actually exists. Each and all of these theorems seem to me highly dubious. And if they are not true, the problem of types is even more complex than the *Principia* represents it. Hence I shall not attempt here to argue the question further, since it involves a whole treatise on metaphysics.

But my distrust of the philosophical foundations seems to me quite compatible with a sincere admiration for the *Principia*. The puzzles that still linger will in time find their solution, or lead on to others deeper yet. But while that is going on, the most of these nearly two thousand pages will remain much as they are now. There



is a good deal that might be further explained or debated, but I close rather with a simple reaffirmation of my admiration for this giant achievement. What may have to be done over again will have to be based on what is already here.

HARRY T. COSTELLO.

TRINITY COLLEGE, HARTFORD.

*The Correspondence of John Locke and Edward Clarke.* Edited, with a Bibliographical Study, by BENJAMIN RAND. Cambridge: Harvard University Press. 1927. Pp. xvi + 607.

John Locke had a genius for friendship. One of the closest of his intimacies was with the parliamentarian, Edward Clarke. The relationship was established at about the time, and was probably in large measure the result of Clarke's marriage with the philosopher's cousin, Mary Jepp. The young barrister was in his early twenties; Locke had already passed his fortieth year. Their friendship endured until Locke's death. Locke's complete correspondence with Clarke and his family, as here published, is an extended portrait of his genial personality.

These letters contain some additional information about the details of Locke's life. There are a few allusions to the growth of the *Essay concerning Human Understanding*. They contain the original draft of the greater part of his *Thoughts concerning Education*, which were originally written as advice to Clarke on the upbringing of his children. And there is an extensive section of the correspondence between the two men, which fully reveals the part that Locke played, through the agency of Clarke, then a member of parliament, in the enactment of the important coinage legislation of the period. All of these details are incorporated by Dr. Rand into a well-written biographical study, prefaced to the volume, of Locke and Clarke.

What information there is about the writing of the *Essay* is primarily regarding the time and mode of its composition: Locke writes from Utrecht in January, 1685, that he has devoted most of the time during the past winter to his "enquiry concerning *Humane Understanding*, a subject which I had for a good while backwards thought on by catches and set down without method several thoughts upon as they had at distinct times and on several occasions come in my way; and which I was now willing in this retreat to turn into a less confused and coherent discourse, . . . and to that purpose had brought those papers along with me to this country" (p. 117).

In the same letter Locke inquires if the Earl of Pembroke (to whom the *Essay* was dedicated) has expressed any desire to see his discourse of which one may now perceive "the design and connection



of the parts" (p. 120). In February, 1685, Clarke informs Locke that Lord Pembroke would like to see the *Essay*. An abstract was sent by Locke in May, but Clarke did not receive the fourth book of the *Essay* until December, 1686. On December 17, 1686, Locke writes that the "fourth and last book of *De Intellectu Humano* is now growing into some form" (p. 176). Two weeks later, December 31, he writes: "You have here at length the [four]th and last book of my scattered thoughts concerning the *Understanding*, and I see now more than ever that I have reason to call them scattered, since never having looked them over all together till since this last part was done, I find the ill effects of writing in patches and at distant times as this whole essay has been. . . . Of what use it may be to any other I cannot tell, but, if I flatter not myself, it has been of great help to [our first enquiry], and the search of knowledge ever since has been in my thoughts, which is now five or six years. For so long ago is it since some friends upon an accidental discourse [started me] upon this enquiry, which I am not sorry for. And if it has cost me some pains in thinking, it has rewarded me by the light I imagine I have received from it, as well as by the pleasure of discovering certain truths, which to me at least were new. For being resolved to examine *Humane Understanding*, and the ways of our knowledge, not by other's opinions, but by what I could from my own observations collect myself, I have purposely avoided the reading of all books that treated any way of the subject, that so I might have nothing to bias me any way, but might leave my thought free to entertain only what the matter itself suggested to my meditations" (pp. 177-178).

This letter, which is the most important in the collection for the understanding of the *Essay*, reveals that the memorable discussion which gave occasion to the *Essay* very probably occurred in 1681 or 1682 and not in 1670-1671, as stated by Lady Masham in the sketch of Locke's life she sent to Le Clerc, or in 1673, as Tyrell noted in the margin of his own copy of the *Essay*.<sup>1</sup>

Nearly a year later, December 31, 1687, Locke writes from Amsterdam that Pembroke is so well satisfied with the abridgments of some parts of the *Essay* which he has seen that he desires to see the whole discourse, and requests Clarke to turn over to the Earl his own copy, "and if you desire another you shall not fail to have one, if it be not printed, which I am apt to expect it will now be ere long" (p. 231).

On December 16, 1688, Clarke writes after a conference with Pembroke about the *Essay*: "That whatever he [Pembroke] had to say upon that subject was in no sort any objection either to the

<sup>1</sup> See Dr. Rand's *Biographical Study*, p. 28.



notions in your book, or the reasons made use of to support them, but purely relating to the repetitions and other small errors therein which you have already corrected, and therefore he desires you to proceed in your design of publishing it, with the first opportunity, as a performance that will not only exceedingly oblige him, but all the considering and learned part of mankind" (p. 279).

The book is beautifully printed, equipped with a full index, and embellished with portraits of Locke, Edward and Mrs. Clarke, and Locke's "wife," their daughter, Betty.

GAIL KENNEDY.

AMHERST COLLEGE.

## JOURNALS AND NEW BOOKS

MIND. Vol. XXXVII, No. 147. Mr. Bertrand Russell's *Outline of Philosophy*: H. A. Prichard. Spinoza's Conception of Eternity: H. F. Hallett. Cook Wilson's View of Judgment: Richard Robinson. The Notion of Duty (II): W. D. Lamont. Discussions—The Theory of Types: Paul Weiss; *Cosmic Evolution*: J. E. Boodin; The Infinite Regress of Proof: F. C. S. Schiller.

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REVUE D'HISTOIRE DE LA PHILOSOPHIE. 2<sup>e</sup> Année, Fasc. 3. Scolastique musulmane et scolastique chrétienne (1<sup>er</sup> article): L. Gautier. A quelle date Descartes a-t-il écrit la "Recherche de la Vérité?": G. Cantecor. La conversion de Renouvier au finitisme (2<sup>e</sup> et dernier article): R. Le Savoureux. Editions, traductions, et commentaires.

REVUE PHILOSOPHIE. 53<sup>ème</sup> Année, Nos. 7 et 8. Lettres à Maine de Biran: Cabanis. Parasitisme et évolution: Et. Rabaud. La mentalité primitive et celle de l'enfant: H. Wallon. Les béatitudes (*fin*): P. Janet. Falsa Cartesiana: L. Roth.



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### NOTES AND NEWS

TO THE EDITORS OF THE JOURNAL OF PHILOSOPHY:

The collected works of Charles Saunders Peirce are shortly to be published by the Harvard University Press. A detailed biography is also in preparation. Will not all persons who happen to be in possession of letters, biographical material, or papers, by or concerning Charles Peirce, be so kind as to communicate with the undersigned?

Acknowledgment will be made and where desired letters or papers will be returned.

HARVARD UNIVERSITY

CHARLES HARTSHORNE



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There is no similar journal in the field of scientific philosophy. It is issued fortnightly and permits the quick publication of short contributions, prompt reviews, and timely discussions. The contents of the last six issues are as follows:

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Necessity. A. CORNELIUS BENJAMIN.

Book Reviews. Journals and New Books. Notes and News.

Volume XXV. No. 11. May 24, 1928.

Some Difficulties in Current Value Theory. CHARNER M. PERRY.

The Esthetic of Leo Stein. GEORGE BOAS.

Professor Lovejoy's Carus Lectures. W. P. MONTAGUE.

Book Reviews. Journals and New Books. Notes and News.

Volume XXV. No. 12. June 7, 1928.

Light, Wave-Mechanics, and Consciousness. OLIVER REISER.

Postulates of Empirical Thought. HENRY BRADFORD SMITH.

Discussion: Mr. Montague on the Relativity of Truth.

DONALD A. PIATT.

Book Reviews. Journals and New Books. Notes and News.

Volume XXV. No. 13. June 21, 1928.

A Note on Method in the Psychology of Religion. GARDNER MURPHY.

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## THE JOURNAL OF PHILOSOPHY

## SANTAYANA, THEN AND NOW

RECENT works from the pen of Santayana have made clear a distinction which compels a revision of the estimate usually put upon his philosophy by American critics. This distinction is expressed by the two contrasted ideas of *the life of reason* and *the spiritual life*. Traces of the contrast can be seen in the earliest books of Santayana, but the traces are both few and faint. *The spiritual life* is not a development of a theme familiar from pages of former writings; it is comparatively a new theme, a theme so contrasted with *the life of reason* that we may wonder at times whether it can be incorporated into the same symphonic whole. For some reason, or because of some accident, Santayana devoted himself to an exposition of the life of reason many years before he turned to elucidate his present conception of the spiritual life. Perhaps this fact is due to some prompting of his personal taste; for Santayana is a mixture of artist and moralist, and it is the life of reason which is the *locus* of all esthetic and ethical achievements, while the spiritual life, as he now defines it, has no concern with values at all. In any case, and no matter what may explain the temporal priority of the five-volumed *Life of Reason*, his critics, even his "friendly critics," have too often supposed that his philosophy was exhausted in the explanation and development of that conception. This is now clearly seen to be not the case,<sup>1</sup> whether happily or unhappily. The world of essence, Santayana tells us, contains infinite richness; and so his philosophy, we discover, contains at least an unsuspected variety of themes. The great series of *The Life of Reason* carried through one conception with masterly skill. The new series of *Realms of Being*, along with the reply which in *Platonism and the Spiritual Life* he makes to Dean Inge, is striking out in a new direction. For any just appraisal of Santayana's thought, we must try to make clear the distinction between the fundamental ideas of these two series of books.

The life of reason is "a name for that part of experience which perceives and pursues ideals—all conduct so controlled and all sense so interpreted as to perfect natural happiness."<sup>2</sup> It is a

<sup>1</sup> The theme of *the spiritual life* is developed particularly in the last two books which Santayana has published: *Platonism and the Spiritual Life* (New York, Charles Scribner's Sons, 1927), and *The Realm of Essence* (New York, Charles Scribner's Sons, 1927).

<sup>2</sup> *Reason and Common Sense*, p. 3.



temporal career which men may at times come to live on earth. When imagination is guided by the needs of animal life, and impulse is disciplined by the foresight of ideal possibilities, then the life of reason comes to pass. It is the intelligent utilization of raw materials for the manufacture of a finished product which will more efficiently serve the interests of man. It is the loving reshaping of natural objects (in clay and stone, in sound and color) into forms which will delight the soul. It requires for its achievement both industrial and fine arts; it involves a high degree of competence in techniques of handling the means to human welfare, and it issues in increased sensitivity to, and in heightened appreciation of, the ends at which men aim. Also it is the transformation of human as well as of inanimate nature, the building up from crude impulse and wild imagination of an ordered and harmonious life. It is concerned with politics, with war, with family life, with friendships, with all human institutions. It leads men beyond the "natural society" into which they are born, until they win a status in that "free society" in which their relationships with their fellows are reconstructed in accord with the ideal, are beautified and enriched, and become a source of enduring joy. Religions have aimed to complete the life of reason by reshaping man's fear of the unknown into citizenship in the Kingdom of God, even if their proneness for superstitious form has invariably thwarted their realization of this aim. Thus the whole history of human culture is a record of man's stumbling progress towards and tragic blindness to the ever-present possibilities of the life of reason. The life of reason has no final goal in the sense of a culminating moment for the sake of which all else occurs; it is a process of constant moral gain, in which each measure of success but opens the way to further efforts for still loftier ambitions. Yet it has many final goals, in the sense of moments of intrinsic value and self-justifying worth; for life does bring to men bits of genuine glory, moments of sheer happiness in the exercise of power nobly directed to noble ends.

The spiritual life, as outlined in Santayana's last two books, is quite another affair. It is not a matter of effort, of enterprise, of the control of nature; it is rather a matter of escape from the mundane realm. Though it can occur only at moments in the career of rational animals, it is yet not directed to temporal achievements in the refashioning of the course of events. "Spiritual life is not a worship of 'values,' whether found in things or hypostatized into supernatural powers. It is the exact opposite; it is *disintoxication* from their influence."<sup>3</sup> It is based on "the gleam of intuition."<sup>4</sup> It is concerned, not with existence and time, but with

<sup>3</sup> *Platonism and the Spiritual Life*, p. 30.

<sup>4</sup> *Ibid.*, p. 49.



essence and eternity. It is contemplation of essence, contemplation so detached from worldly affairs, from moral promptings, from consciousness of change in the realm of matter, that it is utterly unaware of its existential basis and its temporal relations; for since, as Aristotle says, the soul is everything it knows, the man who lives the spiritual life tends to become, like the essences he contemplates, a disembodied and eternal form. Though it is true that "wherever spirit exists, it exists at some particular place and time, by the operation of its natural organs," yet it is also true that "wherever it thinks, it regards only some essence, eternal and non-existent, a more or less ample manifestation of pure Being."<sup>5</sup> Spirit then means loss of even self-consciousness; and this loss is, not metaphorical, but actual,—for spirit "cannot attain that ecstasy without dropping all connection with its body—that is, without dying."<sup>6</sup> To those who do not cultivate the spiritual life, it will always seem that "the end of the spiritual life is an end indeed: it is annihilation."<sup>7</sup> But to those who seek the spiritual life, its end is a liberation from existence which is scorned and a passing into that eternity which seems to offer abiding peace.

Thus the life of reason and the spiritual life are different in nature. As one is a temporal career towards ideal goods, the other is withdrawal from time and indifference to goods as much as to evils, indifference to all existence of whatever moral quality. Santayana does not seek to lead people to live the spiritual life: he is seeking for understanding rather than carrying on propaganda. "In the spiritual life there is nothing obligatory."<sup>8</sup> It is the good life for those whose temper leads them to seek it; but so are several other forms of life. And Santayana concludes his most persuasive chapter in *The Realm of Essence* with the confession that he himself prefers the life of reason to the spiritual life. "Much as I may admire and in a measure emulate spiritual minds, I am aware of following them *non passibus aequis*; and I think their ambition, though in some sense the most sublime open to man, is a very special one, beyond the powers and contrary to the virtues possible to most men. As for me, I frankly cleave to the Greeks and not to the Indians, and I aspire to be a rational animal rather than a pure spirit."<sup>9</sup> Now the cynic may smile that so sympathetic an expositor of the spiritual life should thus pronounce. But the critic must not be cynical. A writer may minutely describe the way of life of some Tibetan monks or ancient anchorites without aspiring to fashion

<sup>5</sup> *The Realm of Essence*, p. 63.

<sup>6</sup> *Ibid.*, p. 61.

<sup>7</sup> *Ibid.*, p. 61.

<sup>8</sup> *Ibid.*, p. 65.

<sup>9</sup> *Ibid.*, p. 65.



his own life on the model of his subject. And furthermore Santayana has already shown himself a zealous spokesman for the life of reason and can not therefore be a practitioner of a life so radically different. None the less, the critic, however he may eschew cynicism and seek just appraisal, will be forced, I believe, to consider Santayana's reluctance to become "pure spirit" a significant confession. Perhaps it will be found that Santayana has not drawn the outlines of the spiritual life in a way thoroughly true to the intent of his own thought. Of course if he or any one else wishes to define the term in a certain way, such is his right: definition is arbitrary. And some men have lived such a life as Santayana calls the spiritual life. Yet Santayana may perhaps have overstated his case. In preëempting the term "spiritual life" for a life he can not himself choose to live, he is perhaps exaggerating an idea which in another form would present a more alluring prospect.

But before we discuss the spiritual life further, we must turn to an analysis of the realm of essence with which in the spiritual life Santayana tells us we are wholly concerned. Essences can hardly be defined; but they can be designated by discourse about them, especially through careful assertions as to what they are *not*. They are not metaphysical powers behind the world of appearances, nor magnetic forces which draw men and things upwards in aspiration. They are not properly to be called the natures of things; for many essences may never have been manifested in any existence, and those which are so manifested are indifferent to such a casual and adventitious accident. They are not concepts or mental events, though some of them at times happen to be envisaged in "the gleam of intuition." They are not immortal as the gods are alleged by their worshipers to be, though they are eternal in their timeless being. They are not intrinsically noble and do not deserve to be regarded as superior to existence, though some of them may serve as symbols of the values we human beings pursue and many are indeed logically prior to the situations by which they happen to be brought before our attention. They are the objects of that final form of mystic contemplation, when the existence of even God becomes too trivial to absorb the continued devotion of the emancipated soul. They remain unchanged while we shift our gaze unwittingly from one to another and say we have "changed our minds;" and they do not cease to be when all else perishes in the unceasing cycle of birth and death. They are identical and individual, universal and non-existent; they are not imaginary, nor abstract, nor, except by chance, the terms of discourse. They alone are luminous in a world where the texture of events is confused and



puzzling; but they are not therefore friendly to man, but only innocent of all regard for mortals. They are not themselves truths, since truth involves predication about some reality; but whenever we try to speak the truth in science or human affairs, we must resort to essences as the only means of significant utterance. And all our scientific theories, all our bodies of knowledge, all our assertions about the world and our business in the world,—all our speech, in brief, is but an inroad into the realm of essence whereby we hope that some light from “the gleam of intuition” may fall across the dark and abysmal course of nature.

Such is the chief thesis of *The Realm of Essence*. The delightful pages in which Santayana carries the reader through his exposition of the thesis are so intriguing in their literary charm that they tend to silence dissent. Indeed the book is one of the most effective which has come from his pen. The critic might almost venture the opinion that no such exquisite philosophical literature had ever before been composed; and he could not be refuted unless some interruption reminded him that there are other volumes written by Santayana and there are the dialogues of Plato. But admiration is not the only form of criticism. And on certain points the truth of Santayana's presentation of the nature of essence may perhaps be challenged. I say *perhaps*. For one can hardly be sure that objections to Santayana's statements are fair: a style which uses so many graceful literary figures is sometimes difficult to interpret with accurate literalness. Yet even at the risk of captious criticism, two points seem to me to call for adverse comment. And if the points are not well taken, the later volumes of the series on *Realms of Being* will perhaps give the needed correction.

The first point on which I would make adverse criticism is in connection with a doctrine set forth in *Scepticism and Animal Faith* and repeated in *The Realm of Essence*. In the former book Santayana employed the phrase that *nothing given exists*.<sup>10</sup> In the latter book he uses no such extreme statement of the point, and I am left somewhat doubtful to what extent he still intends to maintain the point unchanged. Yet often Santayana seems to say that the whole content of experience is a series of essences and that nothing else is ever immediately present in experience. The point is not that only an essence can be intuited; for intuition is a term which Santayana chooses to preëempt for the way in which essences are present to the mind. The point is rather (if this interpretation is correct) that intuition is the only activity which clearly occurs in experience. And then one would be driven to assert that all the particular colors and sounds, all the immediate “impressions” of the

<sup>10</sup> Cf. the title of chapter VII, and *passim* in the entire book.



various senses, all the so-called data of experience are essences. Possibly this is what Santayana means in speaking of "sensible essences,"<sup>11</sup> or in saying that "all the qualities of sensation,"<sup>12</sup> "the sweetness I may taste,"<sup>13</sup> or "the colour of the sky"<sup>14</sup> are essences. Surely, since essences do not exist, it would follow by rigid logic that, if only essences are given in experience, nothing given exists. Few would challenge the premise that essences do not exist. But many would challenge the premise that only essences are given in experience. Experience seems to many of us to give immediately certain existential facts. "A particular sort of colour, say Cambridge blue" is what Whitehead calls a "sense-object" and Santayana calls an essence. But Whitehead goes on to point out that this sort of color is an entirely different thing from "a particular patch of blue as seen during a particular second of time at a definite date."<sup>15</sup> And the particular patch of blue is, so it seems at least to me, as immediately present in experience as the sort of blue, the essence of blue. Whitehead calls the way in which the particular patch of blue is present "presentational immediacy."<sup>16</sup> And experience does seem directly and indubitably to give us abundant data through presentational immediacy. Much that is given would then exist. And if we need inference, cautiously checked and controlled, if we also need postulates which can perhaps never be thoroughly demonstrated, in order to go on from the given data to the supposition of an order of nature which, if it exists at all, surely lies largely beyond direct experience and concerning which we can never hope to pronounce with the certainty with which we can pronounce concerning the essences we intuit, even then we do not have the problem on our hands of jumping from essences intuited to existences wholly hidden from view, but rather we have the problem on our hands, theoretically and practically, of concluding from the existential data of presentational immediacy and the essences thereby suggested what further existences are continuous with the existences already given. Now there may be involved in this process of exploring the realm of nature an activity which might go under the name of "animal faith." For action is prior to reflection, impulse to intuition. Animal life is occurring already when first some essence becomes "luminous" and intelligence effects an awkward control over further acts. And there are phases of this animal life which may at any minute become data of presentational immediacy,

<sup>11</sup> *The Realm of Essence*, p. 48.

<sup>12</sup> *Ibid.*, p. 30.

<sup>13</sup> *Ibid.*, p. 40.

<sup>14</sup> *Ibid.*, p. 115.

<sup>15</sup> *The Concept of Nature*, p. 149.

<sup>16</sup> *Symbolism, its Meaning and Effect*, p. 17.



and which may thus disclose partially the existential complex of events within which action is occurring and must continue to occur. But "animal faith" is not, when thus viewed, what Santayana means by the term: at least it does not involve any leap in the dark from one realm of being to another realm of being. It is rather a matter of the extension of belief from the existentially given animal actions in the existentially given situation to the more inclusive events, existing but not given, within which we live and move and have our being. This extension of belief may be based on prejudice, passion, vain desire, or sheer guessing, and will then doubtless issue in mythologies, horrible or entrancing. But it may be guided by tentative hypotheses and corrected by further evidence given in further cases of presentational immediacy, and will then be called "scientific" and be more likely to be true.

Now all this criticism may be an irrelevant protest against a position which Santayana would not assume. He may have intended only to assert two things about experience which I for one would not in the least wish to challenge. On the one hand he may have meant to point out that along with what is given in presentational immediacy is a large element of interpretation, that perception is saturated for us adult human beings with meanings which may or may not be valid, and that immediate experience, until vigorously scrutinized, and perhaps not even then in some cases, is not a trustworthy witness of the course of events in nature around us. On the other hand he may have meant to recognize that mystics will be mystics, that many a man can so withdraw attention from the data of presentational immediacy as to become entirely unconscious of them, while he voyages serenely in the realm of the eternal and the "luminous." In so far as Santayana means that all we seem to have in experience is not existentially given or that all which is existentially given may at times be successfully ignored, he is on solid ground. But he seems to mean more, and to that more I must dissent. "Essences," he writes, "are the only objects of indubitable and immediate experience."<sup>17</sup> And thereby he not only asserts that we intuit essences, but also denies that we have presentational immediacy of some natural and existing events. I am as sure that some few of the flux of events about me are immediately given in my experience as that some few of the unchanging essences are given.<sup>18</sup>

<sup>17</sup> *The Realm of Essence*, p. 165.

<sup>18</sup> Santayana gives some dialectical reasons for his position, especially in *Scepticism and Animal Faith*. Into these I shall not go here. I must point out, however, what indeed is an *ad hominem* argument only, namely, that if dialectic (as is discussed above in the next paragraph) is only the pressure of circumstances something of those circumstances must be given in experience. In other words, Santayana seems to be defending two inconsistent positions.



I believe that my fellowmen have kindred experiences; and if any of them assure me they have not, I am unable to believe they are correctly reporting the facts. And so I have difficulty in convincing myself that Santayana really means what he none the less seems clearly to say on this point.

The other point on which I would dissent from Santayana's contentions is as to the basis of dialectic. According to Santayana no essence has any implications. Each essence is "all surface without substance": it is wholly and entirely revealed in any intuition in which it is revealed at all. What we falsely take to be implications of an essence are associations which lead us mortals to pass in routine fashion from one essence to another. Thus implications are "imposed on essences by human discourse,"<sup>19</sup> and arise from chance correlations in the realm of existence. Logic then "is a kind of rhetoric," which "marshals intuitions in ways which are irrelevant to them."<sup>20</sup> And the alleged force of logic is only a bias ingrained in human nature,—a bias which is largely due to congenital predeterminations and is reinforced and "rendered precise and irrevocable by habits formed under the pressure of circumstances."<sup>21</sup> The *a priori* is what an individual finds ineradicable in himself; but it has its origins in the history of the race and was generated in the individual's ancestors by some peculiar exigency of the natural flux.<sup>22</sup> The urgency of dialectic is then moral,—we are trying in dialectic to be loyal to the fundamental tendencies of our own natures. "The controlling force in reasoning is not reason, but instinct and circumstance, opening up some path for the mind, and pledging it to some limited issue."<sup>23</sup>

This is irrationalism raising its head in an unexpected quarter. It is too easy a way of disposing of a difficult philosophical problem. The relationships between essence and existence can not be disposed of in so cavalier a fashion. Men find sometimes that the essences set forth in the postulates of their thinking lead far away from the expected outcome, and discover that they are driven by the inevitable bearing of these essences on each other to conclusions which neither congenital predeterminations nor empirical contacts with existence could account for. It is true that consistency in developing postulates is unable to lead us to a determination of the truth of our dialectical systems as applied to the course of nature. Santayana is on sound ground in emphasizing the inability of dialectic to settle mat-

<sup>19</sup> *The Realm of Essence*, p. 81.

<sup>20</sup> *Ibid.*, p. 90.

<sup>21</sup> *Ibid.*, p. 99.

<sup>22</sup> Santayana seems here to be repeating Herbert Spencer's theory of the *a priori*. Cf. Spencer's *Principles of Psychology*, section 208.

<sup>23</sup> *The Realm of Essence*, p. 104.



But there is a great gap between this position and the denial of all implications between essences, and adherence to the former does not involve assent to the latter.

Santayana once took a different position himself, a position which seems more defensible. In his essay on *Three Proofs of Realism* he wrote: "Even the essences we take some note of have many necessary ideal relations which escape us. Logically the essence of a right-angled triangle involves the Pythagorean proposition, but psychologically we may have no occasion or no power to discover it. Nature herself, like our thought (which for the most part expresses nature), is selective in respect to essence, and reproduces only a part of that infinite labyrinth. If physical (or at least terrestrial) space had not happened to be Euclidean, Euclid certainly would never have thought out Euclidean space: yet all he says of it would have been just as intrinsic to that essence as it is now."<sup>24</sup> Essences are here recognized as having implications ("ideal relations") which may not at first be apparent ("which escape us"); and indeed an excellent illustration of the relation of essence and existence is given. The Euclidean system was a development (as presented in its finished form at least) of certain essences defined in the initial postulates. The occasion for noting this geometrical system may have been, as Santayana suggests, its seeming congruity with the space which characterizes the natural events about us. Dialectically it is no more adequate than the Riemannian or Lobachevskian or some further geometry yet to be discovered. And whether it is to be preferred on empirical grounds is a question the philosopher must leave to the experimental scientist. Be the truth of these various geometries as applied to the real world what it may, at least there is an internal logic in Euclidean and other geometries which is not borrowed from observation of the "brute" course of events. And Santayana will probably not insist that the alternative dialectical systems are all alike derived from congenital predeterminations of the discoverers of these systems. As he himself so beautifully expressed the point a few years ago: "Only when dialectic passes its own frontiers and, fortified by a passport countersigned by experience, enters the realm of brute fact, has dialectic itself any claim to truth or any relevance to the facts."<sup>25</sup> But when it passes its own frontiers and seeks a passport, it finds all existences conforming

<sup>24</sup> *Essays in Critical Realism*, pp. 182-183. There are many other places in Santayana's writings where he takes implications as following from the intrinsic nature of an essence, as indeed must be assumed wherever there is rational discourse. Cf., for example, the statement that there were in Herbert Spencer's doctrine of the unknowable implications which he never suspected, in Santayana's Herbert Spencer Lecture, *The Unknowable*, p. 7.

<sup>25</sup> *Scepticism and Animal Faith*, p. 28.



to its wishes as no tourist can expect from the governments of the countries into which he enters. It may, of course, seek to intrude where experience refuses a *visa*; and then when detected, it will receive the deportation it deserves (as Euclidean geometry, according to rumors set afoot by some physicists, will soon be deported after lingering a trifle longer on the Ellis Island of the realm of nature). But when passport and *visa* are duly countersigned, dialectic, without indeed exercising the slightest pressure, has its wishes fulfilled in every jot and tittle, and, without issuing a single order, finds its will more adequately carried out than ever any earthly tyrant. In literal phrase, the essences, though not to be taken as forces or powers in either the efficient or final sense, often stand in relations of implication to one another; and when they are embodied in the realm of nature, particular existences exhibit the connections required by the relationships among the essences. As Santayana put it in the passage quoted at the beginning of this paragraph, one essence may *involve* another, apart from any question of psychological associations.

Whether Santayana would try to reconcile his present position with his past utterance, and if so how, or whether he has deliberately departed from or "outgrown" his former opinion about dialectic, we can not say. There are such difficulties in the problem of the bearing of dialectic requirements upon natural events—and of course the preceding paragraph of criticism of Santayana did not refute him so much as dogmatically assert an opposed point of view—that a man is entitled to try out several positions in turn and experiment with them in his thinking. If Santayana has consciously changed his views on the basis of dialectic, his reasons do not seem conclusive. And the change is towards a less defensible position.

But we may return to a consideration of Santayana's present interpretation of *the spiritual life*. Though essences must be sharply distinguished from existences, and even if also they were wholly relationless or without implication for each other, it would not follow that a life devoted to contemplation of them need be wholly foreign to the ambitions of the rational animal. And indeed Santayana formerly defined the spiritual life in a quite different way. This earlier definition of the spiritual life is in interesting contrast with the conception given in *Platonism and the Spiritual Life* and in *The Realm of Essence*. Let us consider this contrast.

Throughout *The Life of Reason*, and especially in the chapter on "Spirituality and its Corruptions" in *Reason in Religion*, Santayana spoke of the spiritual life as the crown and fulfilment of the life of reason. "A man is spiritual," he there tells us, "when he



lives in the presence of the ideal, and whether he eat or drink does so for the sake of a true and ultimate good. He is spiritual when he envisages his goal so frankly that his whole material life becomes a transparent and transitive vehicle, an instrument which scarcely arrests attention, but allows the spirit to use it economically and with perfect detachment and freedom."<sup>26</sup> According to this view, the vision of essence is regulative of human actions in the world of moral affairs. It does not involve blindness to existence and time, nor is its perfection found in ecstatic numbness to the pursuits of the rational animal. When successive crises in the life of reason have witnessed the appearance of useful and fine arts, the rise and development of political forms, the discipline of impulse by foresight, the integration of human activities in a rich and happy harmony, then there still remains an adventure of spiritual import. This adventure is the imaginative exploration of the realm of essence, in order therein to find the meaning and standard by which to appraise and justify the achievement of one's life. Or if perchance, as more often happens, the struggle towards moral reconstruction of the raw materials of physical and human nature fails and is brought to an untimely halt by the recalcitrance of those materials, still the adventurous grasp of the essential nature of the unachieved goal is an enterprise which may yet transform bare failure into sublime tragedy. Without "the gleam of intuition" such spirituality is impossible; for standards and meanings are not some existences among others, existences which we may touch or see with bodily organs. Spirituality is not here regarded as exhausted in "the gleam of intuition"; it involves comparison of the nature intuited with the character of the existential situation and appreciation of the sorry inadequacy of the latter and the radiant glory of the former.

When in *The Life of Reason* Santayana expounded this earlier conception of the spiritual life, he was following in the footsteps of Plato. Plato is always leading us towards a grasp of the ideal which enables us to appraise our acts, our institutions, ourselves. In the *Republic*, for example, he gains for himself and for us a vision of the perfect city which does not exist on earth, but is emblazoned upon the sky. And he does not lose himself in uninterrupted contemplation of the perfect city, nor would he have achieved spirituality in that way (in Santayana's earlier sense for the term). Rather he was spiritual precisely because he viewed his beloved but miserable Athens from the battlements of the perfect city, pronouncing authoritative judgment upon the existing city in the light of his vision of the city in the sky.

<sup>26</sup> *Reason in Religion*, pp. 193-194.



Plato is not a perfect parallel to Santayana at this point. For Plato, though he never allowed his reforming passion to pervert his vision of the "ideas," was yet passionate in his desire to effect reform. And Santayana has shown no such desire. Perhaps a better parallel to Santayana is Spinoza. Near the beginning of the *Political Treatise* Spinoza said: "I have laboured carefully, not to mock, lament, or execrate, but to understand human actions; and to this end I have looked upon passions, such as love, hatred, anger, envy, ambition, pity, and the other perturbations of the mind, not in the light of vices of human nature, but as properties, just as pertinent to it, as are heat, cold, storm, thunder, and the like to the nature of the atmosphere, which phenomena, though inconvenient, are yet necessary, and have fixed causes, by means of which we endeavor to understand their nature, and the mind has just as much pleasure in viewing them aright, as in knowing such things as flatter the senses."<sup>27</sup> Just this attitude, detached from all reforming zeal, yet intellectually concerned to know the nature of existence, is what Santayana expressed as making possible "ideal society."<sup>28</sup> Ideal society, as readers of *The Life of Reason* will recall, is not utopia: it is fellowship with ideal being, i.e., with essences. When the life of reason is sufficiently advanced, the human mind turns to a realm beyond its physical and social environment, and seeks a "disintoxicated" and just view of the ideas and ideals, the sentiments and beliefs, the hopes and ambitions which have absorbed other men during the history of culture. It does so, not to escape the world any more than to reform the world, but to understand the world. And understanding involves the intuition of essence, the choice, out of the vast labyrinth of essence, of just those essences which enable us to define the present nature of things and to discern the ideal goal of things. The vision of essence does not, in Santayana's earlier conception of the spiritual life, end in itself; rather it aims at interpretation of the values which men may properly cherish in the realm of human affairs.

Santayana's present conception of the spiritual life is quite another matter, as the outline above makes evident. It involves complete indifference to and total forgetfulness of the realm of existence: it scorns even the most just appraisal of the possibilities of existence. It craves unconsciousness as it loses itself in the eternal being it contemplates. It "regards *only* some essence,"<sup>29</sup> and does not employ the essence to illumine problems of existence.

The unsatisfactory character of Santayana's present view of the spiritual life may become more clear if we pause to examine a cer-

<sup>27</sup> Bohn edition of Spinoza, Vol. I, pp. 288-289.

<sup>28</sup> *Reason in Society*, Chapter VIII.

<sup>29</sup> *The Realm of Essence*, p. 63, italics mine.



tain phrase he uses. He tells us that "contemplation of pure Being is the last phase of spiritual progress."<sup>30</sup> The term "pure Being" is used by Santayana without any equivocation; but it is rich in associations from the history of mysticism, and almost inevitably carries connotations for the reader which go far beyond Santayana's express doctrine. My criticism involves the point that without these further unintended associations Santayana's thesis about the spiritual life would be, if not ridiculous, at least utterly unconvincing.

Santayana's statement that contemplation of pure Being is the last phase of spiritual progress means just this. We become spiritual if we pay exclusive attention to "the positive intrinsic nature"<sup>31</sup> of an essence without further considering its relations to possible existence. We become spiritual, that is, if we enjoy the essences for their own sake, and resist the natural urge to make the leap of animal faith by building up on some essence a belief about the natural world. Thus the less interested we are in truth about existence, the more chance we have of being spiritual. Pure Being is, when thus used, a name for the kind of reality which any and every essence possesses in its own right. Santayana maintains that, once we have grasped any essence in its own positive intrinsic nature, we will be led on surely to a vision of the whole infinite realm of essence. Santayana has no moral preference for any one essence over others, in his treatment of the spiritual life. To rest in unalloyed intuition of any essence whatever is to tend, towards spirituality.

But though such is Santayana's position, his language is loose. Though at times *pure Being* means for him the kind of being which every essence possesses, at other times it stands for a special essence apart from the rest. In an earlier writing he said: "Pure Being is itself a particular essence, the simplest essence of all, clearly distinguishable, both in definition and in experience, from every other essence."<sup>32</sup> And in many passages in *The Realm of Essence* he continues to use the term in this sense. "Pure Being is different from all other essences."<sup>33</sup> Pure Being is "of all essences the most lauded and the most despised, the most intently studied in some quarters and the most misunderstood in others."<sup>34</sup> And while "pure Being is no purer than any other essence," it is "related to other essences very much as any essence is related to its existing manifestations."<sup>35</sup> In such passages pure Being is the supreme

<sup>30</sup> *Ibid.*, p. 60.

<sup>31</sup> *Ibid.*, p. 56.

<sup>32</sup> *The Unknowable*, p. 9.

<sup>33</sup> *The Realm of Essence*, p. 46.

<sup>34</sup> *Ibid.*, p. 45.

<sup>35</sup> *Ibid.*, p. 49.



essence at the head of a hierarchy of lesser essences. And while the two meanings of "pure Being" have a legitimate logical bearing on each other, this second usage of the term is likely to mislead Santayana's readers.

Any student of mysticism can understand the appeal which contemplation of pure Being as a supreme essence makes to many minds. Its logical priority gives it, illicitly perhaps, but none the less forcefully, a moral urgency and religious attraction. It is The One, The Absolute, The Ultimate. But pure Being, as the kind of reality which any and every essence possesses, is hard to consider with the same affectionate and awe-struck fervor. The contemplation of the pure being of mud, and hydrogen peroxide, and mahogany, and dandruff does not really seem very noble an occupation. And even if one then goes on to contemplate the pure being of the perfect circle and eternal justice and sheer beauty, the glory of the realm of essence is not very bright. Deprived of reference to existence, as scientific description or as moral appraisal, the essences are as democratic as Santayana rightly asserts; and the essence of beauty is no more lovely than the essence of dandruff, since their being is equally pure. The success of Santayana's doctrine that contemplation of pure Being is the last phase of spiritual progress would seem to be dependent on this point, namely, that the reader should be guilty of the equivocation in reading Santayana's language against which he successfully guards for himself. The critic can not then help but wonder whether the dual usage of the term "pure Being," though stylistically adroit, is not also a bit unfortunate.

Not only is the earlier of Santayana's two conceptions of the spiritual life a more significant moral adventure, but it is, I believe, more in line with the real intent of his philosophic point of view. Of course, the term "spiritual life" may legitimately be redefined in a dozen ways by different authors or by the same author in different connections. And it is true enough that men have at times lived the spiritual life in each sense in which Santayana defines the term. But none the less Santayana seems in his last two books to be engaged in a kind of *tour de force*, a philosophical trick more amusing than profound. Engaged in writing a volume on essence, he has been driven to press his theme with rigor and to show the extreme to which contemplation of essence may go. But his confession that he does not wish himself to live a spiritual life in his new sense of the term stands forth like an acknowledgment that when he has played his philosophic game he will return to more fruitful and profitable inquiry.

Santayana developed his present conception of *the spiritual life*, not simply as a by-product of his discussion of the realm of essence,



but in connection with his reply to the neo-Platonic position of Dean Inge. And therein we perhaps discover the basic motivation of his present position. Throughout his many books over many years Santayana has always shown a strong animus against what he regards, and rightly, as a misuse of essence. Neo-Platonism he has treated as a perverted Platonism. The Platonic "ideas" or universals or essences may properly be used to define the values of natural existence and to guide the life of reason; but they are not to be hypostatized and treated as the generating forces behind the course of natural events. We should not take our vision of ideal ends as a discovery of efficient causes. Theologians have only too often been guilty of just this blunder; and their excessive enthusiasm for the ideal has thus issued in superstition. Similarly, whereas "idealism in the proper sense of the word" would be "nothing but a visionary intuition of values," most historic idealisms have usually become "a supernumerary second physics, a world to which an existence was attributed which could be hardly conceived and was certainly supported by no evidence, while that significance which it really possessed in reference to natural processes was ignored or even denied."<sup>36</sup> Against these mythologies and pseudo-idealisms Santayana has persistently maintained that the "moral effects" of natural events must not be confused with "their dramatic antecedents."<sup>37</sup> Or, in other words, "the ideal to which all forces should minister is itself no force or factor in its own realization."<sup>38</sup> But Santayana's earlier conception of the spiritual life is at least as effective a reply to the neo-Platonism of Dean Inge as his present conception. Indeed it seems to me altogether more effective; for it is in harmony with the life of reason and need not be repudiated by advocates of the life of reason. It would seem that, in the eloquence with which Santayana opposes Dean Inge, he has overreached the mark. He meant to insist on the reality of essence apart from the realm of existence, and he has ended in making the life in which essence is intuited unconcerned with the existential course of human affairs. Even granting the arbitrary character of all definition, Santayana's present choice of the meaning to be attached to the phrase "the spiritual life" is unfortunate.

The last few paragraphs have been concerned with possible motivations of the recent course of Santayana's thought. It must be recognized that whoever enters upon a discussion of motives behind any philosophical opinion or system is on dangerous ground. If the critic of Santayana thinks he can detect motives, he may be but giving expression to his own prejudices; he must surely realize that he is

<sup>36</sup> *Reason in Religion*, p. 134.

<sup>37</sup> *Ibid.*, p. 141.

<sup>38</sup> *Reason in Society*, p. 190.



guided by a general impression which contains elements of subjectivity rather than by clear evidence. Yet the attempt to trace motivations is an enticing venture; and the outcome, whatever it is, may in a sense be said to have a measure of validity. For even if the motive inferred as an element in the formation of Santayana's present view of the spiritual life never operated *existentially*, it is *essentially* one that some Santayana-like person might have entertained in a world more or less like our own. Thereby the critic is merely turning Santayana into an essence; or, more exactly, he is turning from the Santayana whose books he has been reading to the essence which that existing Santayana brings before his mind in "the gleam of intuition." This essential Santayana can not but interest his discoverer, and will inevitably become the theme of discourse. Even the existing Santayana can not protest too vehemently. No man is a much better judge of his own motivations than the sympathetic observer, and no man can claim infallibility in correcting his friendly critics.

However just our discussion of motives may be, at least there is no doubt that Santayana's recent works require a modification of the opinion in which he is usually held in America. The new series of books on *Realms of Being* will correct the estimate of the man which was made on the basis of the earlier series of *The Life of Reason*. Santayana is not by temperament a lover of the realm of matter. His professed materialism<sup>39</sup> is not an index of his personal taste. His naturalism is due to honest and reasoned argument: it is not the prejudiced expression of a love of nature. Many of his American admirers have taken him to be more of a naturalist than by intent he aims to be; and they have used his books as partisan literature in support of their more militant and aggressive naturalism, thus obscuring the other strains besides naturalism which run through his pages. His naturalism is akin to that which he attributes to Democritus: "His delight in a mechanism that can fall into so many marvellous and beautiful shapes, and can generate so many exciting passions, should be of the same intellectual quality as that which the visitor feels in a museum of natural history, where he views the myriad butterflies in their cases, the flamingoes and shellfish, the mammoths and gorillas."<sup>40</sup> Or as he expresses the matter in personal confession: "I myself have no passionate attachment to existence, and value this world for the intuitions it can suggest, rather than for the wilderness of facts that compose it."<sup>41</sup> Santayana's naturalism is only an episode, so to speak, in his Platonic enjoyment of eternal being. Nature does not tempt him to join

<sup>39</sup> *Scepticism and Animal Faith*, p. vii.

<sup>40</sup> *Reason in Science*, p. 90.

<sup>41</sup> *Scepticism and Animal Faith*, p. 171.



actively in the struggle for existence, to direct the course of its shifting flux of events, to become a reformer in control of natural processes. Rather it leads him to stand aside and use events as occasions for the contemplation of certain essences which he might otherwise never intuit. While the essences are infinitely more numerous than those which find some embodiment in nature, at least nature is what directs our attention to many essences in which we can find delight. Nature is for Santayana an introduction to ideas, a prelude to intuition.

In brief, Santayana's naturalism, if that term be applied to him at all, is anything but a summons to delve into matter and to take part in active affairs. It is the recognition of hard facts from a mind unyielding in its integrity and unwilling to delude itself. But having acknowledged the existence of nature as Margaret Fuller accepted the universe, Santayana turns to things which delight him more. Even his acceptance of nature is a bit malicious: it is based on an indifference such as he tells us the essences exhibit to their chance embodiments at casual moments in the flux of events. A thoroughgoing naturalist who then proceeds to scorn nature is a much more emancipated mind than an idealist who tries vainly to read his purposes and prejudices into the cosmic processes.

Indeed Santayana is more "Platonic," in one sense of that term, than Plato ever was. Behind Plato's search for essences, as of justice or holiness, there lies a moral preference for those essences which serve to express human ideals; and there is evident in the dialogues a constant longing to enter, as the normal Greek naturally would enter, into the direction of affairs in the city he loved. When Socrates in the early dawn saw Hippocrates blush, Plato is poignantly revealing his own soul; for Socrates had made Hippocrates seem to say that he preferred to be a talker about government rather than an active governor. But if Santayana had written the *Protagoras*, no youth would have blushed at such an offense, or rather there would have been no offense committed. Santayana is as aloof from politics as from inanimate nature. He immensely enjoys the prospects he obtains in watching the course of party warfare, intrigue, triumph, and failure; he finds pleasure in passing competent judgment upon the character of different political ambitions, programs, and performances. But these affairs are instances to him of ideas, begetters of intellectual insight into certain eternal essences. As most people who to-day read Dante regard each particular sinner in Hell, not as the real person he was in the political life of Dante's own day, but as a recurrent and oft-encountered type of human character, so Santayana takes even his contemporaries and ours, even us ourselves who are his admirers and critics, as but occasions



on which his vision turns to appreciation of perennial forms. He looks through us and beyond; he sees *what* we are as well as *that* we are, and he pays no more attention to the fact *that* we are than courtesy demands. He sees *what* we are, and he smiles; and in the contemplation of our essence, he has caught up all that is of worth in us for him.

AMHERST COLLEGE.

STERLING P. LAMPRECHT.

*Sovereignty: A Study of a Contemporary Political Notion.* PAUL W. WARD. London: George Routledge and Sons, Ltd. 201 pp.

Professor Ward asserts that his purpose in this book is "to throw additional light upon the meaning of the term 'sovereignty' in contemporary thought." His method of doing this is partly historical and partly critical. In the first chapter, he traces in broad outline the origin and evolution of the modern idea of sovereignty. This introduction provides an excellent background for the succeeding chapters, in which he examines critically the use of the concept in more recent political thought.

The concept of sovereignty in its modern sense is traced back to the struggle between the church and the feudal lords of Germany, France, and England. It resulted from a fusion of two medieval ideas: that of feudal sovereignty and that of the *plenitudo potestatis* claimed by emperor or pope. The new monarchs of England and France, asserting their independence, claimed, like a feudal lord, final jurisdiction and power within their domain; and, like the emperor or pope, recognized no superior to whom they were subject. Hence sovereignty in its classical form meant supreme authority, incommunicable and indivisible. It is clearly delineated by Hobbes in his *Leviathan*.

This conception proved a source of great embarrassment and confusion when the absolute authority of the king came to be questioned. As sovereignty was indivisible, it seemed irreconcilable with the new political forms. To complicate matters, legal philosophy also demanded a unitary source or will as a foundation for law. These difficulties were some of the sources from which there developed the theory of a general will and the theory of the state as a person, real or fictitious—developments that were reinforced by the rise of nationalism and industrialism. They are attempts to reconcile actual political forms and purposes with an idea that had served a useful function in an entirely different situation.

It is impossible here to follow the author through his critical analysis of the use of the concept by the idealists and pluralists, in



chapters two and three. In both schools he finds ample opportunity for pointing out how a concept that once served a useful purpose outlives its utility and serves only to befog issues by leading thinkers away from, instead of to, a study of specific problems. The idealists became preoccupied in providing a locus for sovereignty. As contemporary political organization did not seem to afford one, "a metaphysically real 'person' was provided to sit upon the throne left vacant by the absolute monarch." The case of the pluralists is little better. Influenced by Gierke, they attack the idea of absolute state sovereignty in behalf of some group interests. The state, they insist, is but one of many organizations and it has no inherent divine rights any more than had the Stuart kings. Hence Dr. Figgis attacks state sovereignty in favor of religious groups; Laski, in favor of certain economic groups; Duguit, in favor of increasing the power of the courts. In the fourth chapter, the author appraises the value of state sovereignty in the sphere of international relations. If the idea be credited with securing order within the state, it has been at the price of external anarchy. The problems that arose in the rapidly changing world of the past century were hopelessly obscured by the nationalism inculcated by absolute state sovereignty. As a result of this review, the author concludes that the concept in its classical form is worthless and serves to divert attention from the real problems which are properly the results aimed at and the means suggested for their attainment.

It is not at all necessary to accept the pragmatic viewpoint of the concluding chapter in order to appreciate this book. It serves admirably as a guide in the mazes of contemporary political theory, even though its appraisals may be at times questioned. The review of idealism, in accordance with the prevailing fashion in philosophy today, is very unappreciative. The author follows here rather closely the criticisms of idealism presented in two books written during the war—*The Metaphysical Theory of the State* by L. T. Hobhouse, and *German Philosophy and Politics* by John Dewey. Considering the circumstances under which these books were written, it is not at all likely that the authors were seeking for something to commend in a theory that had its origin in Germany. Moreover, its theory of sovereignty is the very point at which idealism is most vulnerable. As a result, Professor Ward's analysis may give one the impression that the work of Hegel and of Bosanquet, to whom he chiefly devotes attention, has been nothing more than futile dialectic. In his mellow years, James could acknowledge some of Hegel's profound insights and it was only the perverse forms in which it was his custom to express them that antagonized him. A sympathetic interpretation of the metaphysical theory of the state



would find in it, despite the awkward forms in which it is expressed and the misinterpretations to which it is so easily liable, many elements of very great value for political theory. That many of these have been incorporated in later political theories of an entirely different cast should not detract from the credit that is due idealism. A similar suggestion regarding interpretation would apply to the pluralistic theories criticized by the author.

It should in all fairness be noted, however, that Professor Ward seeks to appraise only the value and function of the concept of sovereignty: it is perhaps unjust to hold him responsible for evaluations of various philosophies that seem to be involved in this appraisal. His book is essentially a plea for a new method—the method of direct consideration of determinate political and social problems, rather than that of viewing them from the standpoint of an outworn category, that serves only to confuse the issues. The preoccupation with dialectical disquisitions and factitious problems, that attended the use of the concept of sovereignty in the history of political theory, is quite an impressive support for this plea as well as for the general pragmatic thesis that an idea must always be regarded as a tentative suggestion to be evaluated in terms of its results when actually put into practice. In the final chapter, these suggestions are well developed and an excellent formulation of the pragmatic method in political theory presented.

J. A. NICHOLSON.

UNIVERSITY OF ILLINOIS.

*Primitive Man as Philosopher.* PAUL RADIN. With foreword by John Dewey. New York and London: D. Appleton and Company. 1927. xviii + 402 pp.

I wish first of all to give a hearty endorsement of the capital thing that Dr. Radin has done in this volume, and then to take two exceptions, one to a mannerism and one to what I assume to be a bias marking his carrying through of his task. The exceptions weigh only incidentally, for the book is, as I think, sane, helpful, worth doing, and worth reading.

The essential thesis of the work is that among peoples called "primitive" (a thoroughly confusing term, in my opinion) men are individuals of as many and of the same kind of types as are found among peoples called "civilized" (another term that is full of confusion). "Throughout this book I am making one assumption, namely, that among primitive peoples there exists the same distribution of temperament and ability as among us,"—these are Radin's words. Good! It is just so! American Indians, Polynesians, Zulus (Radin relies chiefly upon these), and the rest are



just as human, personal, several in kind, tough- or tender-minded, imaginative or prosaic, intellectual or practical, devout or sceptical, as any tram or pullman-load of passengers. There are philosophers in every tribal group that can count into the hundred thousand, and sometimes philosophers chance even amid the needy and often hard-pressed members of the tribe of a few hundred individuals,—just as, on the whole, it takes a hundred thousand to support a philosopher among ourselves. Further, there is *philosophy*, in the traditional lore of virtually all peoples, for the philosopher's influence does not die with his day, and primitive folk, no less than ourselves, live their mental life very largely by means of their own slowly assembled and sedulously treasured philosophical patrimony.

It is Dr. Radin's point to run through the range of problems and solutions, philosophical in cast, which are to be found among such peoples, and, running through, to show that their range of speculative achievement is not radically inferior to ours—above all, it is not merely some muddled pre-logical mysticism, some fog of animism or fetichism, or some child's paradise of unreality. He undertakes such topics as the primitive View of Life, and shows that there are views of life,—seen steadily and whole, by George! even among the races of the unbleached. These primitives, he indicates, possess a quite direct freedom of thought, and know that this is theirs; they have conceptions of right and wrong; visions of the ideal man, the hero, or the just and good man; they distinguish, pitifully enough, between the natures of men and women; they are not wanting in the tragic sense of life; and they know how to express their thoughts in pointed aphorisms and understood symbols. Further, some of them, their philosophers, make distinctions of real and unreal, inner and outer; they have their own psychologies (not for dot the same as our most imbedded popularities in this field); they think about God and his number, which is not necessarily plural; and they do all this partly because they would like to know and partly because they like to speculate, whether critically or fondly. If this isn't philosophizing, implies Radin,—well, nothing is lacking but the Ph.D. to invest it with the character, and if you examine closely you will find that degrees are actually granted. For what, after all, is our doctorate collectively but a group of initiates speaking an esoteric tongue and adorned with particolored insignia: any Sioux or Zulu would get the point.

So far I follow Radin with free enthusiasm. It is all so true that it's a pity that it needs saying. Probably his saying of it will have only an incidental effect, at this moment (later it will be taken for granted); for there is too much picturesque piety, of the



ethnographical sort, bound up in *animism* and *mana* and *tabu* and *totemism*—too much writing gone to waste on these exoticisms—to permit the generation which has fathered the lore to misprize it. After all, these terms have served a use, and they deserve consideration; although it is a fine thing to be able to forget a vocabulary when it is dead, the structure which it has supported, as builder's scaffold, is inbuilt, more or less, with the old bearings. I think that Radin has put "primitive" *prelogical* thinking where it belongs,—in the class of "civilized" *sublogical* thinking; and since this, in itself, is something which re-defines the exotic terms, it is something to be thankful for, energetically.

And having, as I conceive, done my duty in the way of thankfulness, I shall mention my two exceptions. The mannerism which I (surely a sympathetic reader!) find irritating is a sort of enthroned apodicticity (is there such a word?) in "the author's manner." Dr. Radin is abundant with "proof," "demonstration," "refutation,"—all the complacent certitudes, just as if he really somewhat doubted the convincingness of his own evidences,—which are capital so far as they go, and which go as far as a modest author need ask. When one appeals to "ample and incontrovertible evidence" just where there is controversy, and that between gentlemen of good standing, or when the appeal is to "ethnologists and unbiased students"—well, one is likely to bite one's thumb at the "ethnologists" and to ask what poor devil of a human being, student or sage, is or can be destitute of bias! Really, Dr. Radin, you should have let your Winnebagoes, Maoris, and Amazulus do all the "proving" that is profitable, and that is to bring persuasion.

And the mannerism fetches me up with the bias. It is not for me, after what I have just said, to criticize any man for possessing a bias. In fact, I sympathize the more with Radin's because it enables me the better to see my own. There is a vase in Santa Fé (really it is superb!), done, I think, by Nampayo herself, which in a rash moment I have likened, for quality, to the Attic,—fifth century, too! Now, heaven forgive me, for I do know better,—and I believe that Radin, too, knows better than his utterances imply when his adulation of the "primitive" leads him into what are really absurdities, done more or less in the grand manner. Vide, p. 61: "The distortion in our whole psychic life and in our whole apperception of the external realities produced by the invention of the alphabet, the whole tendency of which has been to elevate thought and thinking to the rank of the exclusive proof of all verities, never occurred among primitive people"; or p. 99: "Among us the recognition of the truth of human nature drives us into pessimism, cynicism, or sensationalism . . . many . . . to . . . reli-



"gion" [sic!]; "ridiculous as it may seem . . . primitive peoples do and have faced the problem far more frequently and far more consistently than the people of Western Europe," etc., etc. These are examples of the arrant nonsense into which romantic enthusiasms may lead us, and I certainly feel that I owe to Dr. Radin's self-indulgence some gratitude for the better caution which I hope to put into any future utterances of my own. . . .

And, by way of footnote, *why* should the author of a book devoted to the honest and justified purpose of showing Sioux and Zulu minds to be human minds, varied and interesting, insist on keeping the straw in the "primitive" mannikin? The Sioux-Zulus are no more than we are, barring a few accidents of upbringing.

HARTLEY ALEXANDER.

SCRIPPS COLLEGE.

*Morals in Review.* A. K. ROGERS. New York: The Macmillan Company. 1927. Pp. xii + 456.

The clarity, economy, and precision of line, characteristic of the sketches which here depict the positions of leading thinkers in the field of ethics, remind one of a group of etchings. Historical in nature, the work is in no strict sense a history of ethics, but a series of studies, chronologically arranged. The titles of the nineteen chapters suggest a consideration of broad movements from the time of Socrates to the end of the last century, but closer attention reveals the fact that these titles serve only to present a scheme of arrangement under which chosen representatives may be placed for discussion. Thus "The Ethics of the Church" is devoted to a consideration of Thomas Aquinas; "Metaphysical Ethics in England," to Bradley and Green.

The structure of the book appears to be the outcome of the author's belief that submergence of the individual is an old, a highly respectable, and a prevalent sin among students in this field. The theorist who agrees that human experience is the chief source of data for ethics, is not likely to welcome adventurous experiments for the discovery of such data. He is more likely to provide a steadying force in society than a creative power. Hence there is need for emphasis to be placed upon the individual as explorer, whose genius, unsubmerged by the conventions of his time, seeks satisfaction in a unique formulation of such principles as are discovered in his world of experience. There is need to restate the meaning of *social welfare* in a way which shall divest it of remoteness and abstraction, and show it to be the welfare of a great number of men who have various interests in common, but for each of whom the good takes on a distinctly personal complexion, which can not



be deduced rationally from general principles, but which can be discovered in experiences of life by each man for himself and in his own way. In this sense ethical study should be biographical, and biographical is the book, though devoid of material relative to incidents in the lives of its subjects which might usually be so designated.

The aim of the book is to "isolate the more significant contributions which have yet a definite mark, especially as these are still relevant to discussions of the present day." What human conduct is; what may have been its origin and course of development; the way in which the trend of ideals has accompanied the course of customs and manners,—these questions are immediately dismissed. Yet one can not but regret that the skill which is so evident in the treatment was not allowed fuller scope in dealing with detail, even at the cost of further limitation of subject-matter, for the finest analytical power should have more than twenty-eight pages in which to depict "Scientific Ethics," if there is to be individual consideration of the work of Spencer, Huxley, Comte, Clifford, Stephen, and Guyau. We can not but feel the loss upon discovery that less than half a page can be devoted to Comte and two pages to Guyau. Christianity is dismissed with "general remarks" having to do with the system of Saint Thomas. This much may be said without raising the ever-possible question of the wisdom of this or any given selection, or of any given apportionment of space. For instance, some will question the wisdom of devoting a chapter to Mandeville, when so many men of major importance must be quickly dismissed or entirely omitted. As for myself, however, I should be far less disposed to regret omissions than the all too brief development of many of the interesting studies.

It appears both impossible and unwise here to enumerate the many critical questions which the lines of the various expositions raise. It would be quite as difficult to single out the many points at which the insight of the author is responsible for contributions of value. No chapter is likely to suggest more questions, however, than that dealing with Socrates. That Plato's portrait is to be preferred to Xenophon's, we shall not doubt. But was Socrates so complete and sincere a mystic as Professor Rogers believes? Doubting the world of sense, is it really through a direct source that he will know? Is this other-worldly knowledge so much to be preferred to the discoveries of metaphysical speculation, to his mind? We shall not deny the contention, however, that moral conviction does add something of the reformer's zeal to his irony, and endow the moral satirist with his power as he goes about his chosen vocation of plaguing the sluggish indifference of Athens. It may be ques-



tioned whether Plato "the artist" of this chapter is quite consistent with Plato of a later description, for whom "perfection and totality are defined at the expense of nearer and homelier forms of good." Nor am I convinced that in this later description there may not be unnecessary emphasis placed upon Plato's "aristocratic fastidiousness in things of the mind" and "high seriousness which looks down on the common,"—upon his lofty disdain of the philosopher who would "go afishing." Especial appreciation should be expressed of the pedagogical value of such presentations as "The Ethics of Conscience" and the phrasing of criticism in such chapters as that dealing with "Utilitarianism."

The book should be welcomed by teachers of ethics as a most valuable supplement to discussions of problems of ethical theory and application. It answers, at least in part, the present need for a new history of ethics. Its material is presented with a high degree of skill, evident both in analysis and organization. As to brevity, which I may have emphasized too greatly as a fault, we shall hope that correction will be found in a more extended study, developed along similar lines and in an equally interesting manner, at some future date.

CLIFFORD BARRETT.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES.

## JOURNALS AND NEW BOOKS

THE PHILOSOPHICAL REVIEW. Vol. XXXVII, 5. Clarke's Ethical Philosophy (II): *Ernest Albee*. Objective Uncertainty and Human Faith: *David F. Swenson*. Peirce's Place in American Philosophy: *J. H. Muirhead*. The Philosophy of Plotinus: *John Watson*.

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sophischen Hauptströmungen im Monistenbund: *Lily Herzberg*. Vorfragen zur Frage der Telephathie: *J. Petzoldt*. Kausalität und Finalität: *Karl Sapper*. Zum Universalienstreit: *C. Fries*.

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#### NOTES AND NEWS

Eugenio Rignano's extensive criticism of the *Gestaltpsychologie*, published in *Scientia* and then embodied in his *Problemi della Psiche* (Bologna, 1928), has called forth a reply in *Scientia* (May, 1928), by W. Köhler. This reply, together with a German translation of Rignano's rejoinder to Köhler's reply, have been reprinted separately by *Scientia*. This important and interesting discussion is thus available in convenient form.

S. McC. Butt, Associate Professor of Philosophy in the Pennsylvania State College, has leave of absence for the coming academic year, and will be Acting Associate Professor of Philosophy in Brown University.

E. B. McGilvary, Professor of Philosophy at the University of Wisconsin, will be visiting Professor at the University of California during the fall semester, lecturing on the Mills foundation.



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The Meaning of Meaning in Hollingworth's *Psychology of Thought*. EVERETT W. HALL.

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## Volume XXV. No. 19. September 13, 1928.

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## THE STATUS OF THE DATA OF EXPERIENCE

THE object of this article is to set forth briefly the essential principles of critical method and to use the same as a basis for criticizing Professor Drake's theory of the status of the data of experience. My aim shall be not merely to make the article as a whole a criticism, but to use the criticism as a defense of the method used as its basis. In order to accomplish such a goal, I shall endeavor to show that the position criticized really implies the main principles of the method used to criticize it and is, therefore, self-contradictory in so far as it reaches conclusions in conflict with these principles. The successful use of the method in this way will be considered as a conclusive proof that the method does set forth the necessary principles of knowledge, inasmuch as it shows that any theory does, in fact, imply the same, although it reaches conclusions which do not agree with these principles.

The function of critical method is to determine the essential principles of experience and knowledge. The first principle concerns the nature and status of the datum of experience. Conscious experience presupposes a given existence as a primary and ultimate reality for consciousness which can not be reduced to anything else. The very nature and function of a datum makes it impossible for it to have any other status than what it has as immediately given because such a status would be an ontological status and not its immediately given status as datum. The latter status can not be attributed to the datum as immediately given.

The relation of the data to objective reality involves a second principle of knowledge, for it raises the question of the means by which knowledge can transcend its datum, or what is immediately known. This principle is a matter of the relation of given reality to a postulated reality not given. Such a relation is not a given reality, but is an assumed or postulated relation made on the basis of given relations the same as the postulate of an objective reality not given. In the nature of the case, such a postulate is an hypothesis whose validity must be tested indirectly by the given reality.

The relation of these principles is such that neither one can have the ontological status and function in experience that the other has. Only what is immediately given to consciousness can have the function of a datum. Therefore a reality as datum can have only the status of given existence. The function of an ontological explanation, on the other hand, is to postulate an objective reality not



immediately given in order to account for the given. Therefore, such a postulated objective reality can not have the given status of a datum. Each of these functions presupposes the other as a function and status exclusive of itself. An existence, in its function as datum, can have no other status than its given existence. In order to perform its function as an objective explanation, it must have a status that transcends the datum. The two functions and corresponding states can never be identified. No theory can identify the two in the same object. Even if both are attributed to the same object, they constitute two different states of the same object because their functions can not be identified.

The only basis on which an objective existence can be postulated of the datum is by assuming a relation of identity between the given datum and objective reality. Such an assumption makes objective reality a datum of consciousness. This position solves the problem of the ontological status of the datum on a monistic principle which identifies given existence and objective existence.

In his criticism of pan-objectivism, Professor Drake rejects the relation of identity as a sufficient principle of ontological explanation.<sup>1</sup> He contends that the whole content of given experience can not be identified with objective reality. With the rejection of the relation of identity between the datum and objective reality, it is necessary for critical method to replace the monistic solution of the ontological problem by a dualistic hypothesis which does not identify reality as it is given in consciousness with its objective existence. Its task is to secure an hypothesis which will make it possible to account for the existence of qualities in reality as given which do not belong to reality as it exists objectively. For this hypothesis it is necessary to assume a relation between given reality and objective reality which will allow for a difference in the nature of the two, but which also presupposes a difference in existence in order to permit a difference in quality. A critical solution of the ontological problem thus requires that there be an assumption of a relation of identity and difference between objective reality and reality as given.

The purpose and function of an ontological hypothesis is to account for the datum of experience which is the only reality immediately known. The hypothesis must meet the requirements of both principles of knowledge. These requirements are, a given order of existence, an objective ground or order of existence, and a relation between the two which will make it possible to account for the given order by means of the objective one. A critical hypothesis on a dualistic basis which does not identify the two orders must

<sup>1</sup> *Mind and Its Place In Nature*, pp. 6, 7, 14.



assume two orders of existence. The one is the given order of existence, or datum of experience. The other is the objective world as it exists for itself. The first order fulfills the conditions and function of a datum. It is a reality immediately given to consciousness. It is directly known just as it exists and can have no other reality or existence because it is only a given existence. Any other existence would not be a given existence, but a self-existence. For this reason the existence of the given order must be accounted for by assuming an objective order which exists independently of consciousness.

The relation between these two orders must be one which will hold between the different kinds of existence involved. The relation between the two orders as existences is the basis of the postulated existence of the objective order. It is a causal relation between the given order as effect and the postulated objective order as ground. The assumption of an objective order which can produce a given order is the essential condition of the hypothesis itself. There must also be a relation of similarity or epistemological relation between the two orders as well as an existential or ontological relation. This is necessary in order that the postulated order may serve to explain the structure of the given order and not remain a bare unknown ground of its existence. Science has found the spatial character of the given order to be the only one that will serve this purpose. In order to account for the spatial structure of the given order and other qualities, it attributes a similar spatial character to the objective order. The two orders are thus a given spatial order, which also has secondary qualities, and an objective spatial order not given to consciousness. The spatial character of the two orders is not identical in existence because one is a given spatial order and the other a self-existing one. The identity between the two orders is not a matter of existence, but an identity in spatial character between two different types of existence.

The greatest significance for critical method of the substitution of the principle of identity in difference for that of identity is that such a principle implies an essentially different conception of the nature of both consciousness and its immediate content or datum. For this reason it is impossible to formulate consistently any hypothesis which attempts to combine these principles in such a way as to include the objects of veridical perception as members of one objective order, while regarding other objects or qualities as existing only in the mind, or for consciousness. The inconsistency in the hypothesis lies in the attempt to combine two different conceptions of the nature of perception or consciousness, instead of adopting a view of perception which will account for the difference attributed



to the two perceptions. The mistake is in supposing that the perceptions, as such, are different in nature. The logical requirements of the situation call for an hypothesis which will give consciousness and its objects the same character in all cases. Consciousness can not be a direct awareness of objective reality in one case and an awareness of an object in the mind in the other case. The conception of consciousness implied by the principle of identity in the first case is that of an intuitive awareness of external space and objects existing in it. In the other case, consciousness will still be an intuitive awareness of a spatial world, but it will be only a given one having existence for consciousness. It is by such a conception alone that we can account for a given or perceived object which does not have objective existence. Its difference from other objects will not be a matter of difference between the two as given objects, but in their relation to the objective order. A dualistic assumption of two orders allows for such a difference while the principle of identity does not. Such a dualistic principle does not make consciousness a direct awareness of an external spatial order in the case of normal perception any more than in other cases. It simply assumes a corresponding identity of spatial character for normal perception. It is possible to make a distinction between normal and abnormal perception on this basis because the given object depends upon other varying conditions in the external order as well as on the object to which it corresponds.

Professor Drake's position is open to the objection of the combination of the two theories just pointed out. In the first place his criticism of pan-objectivism commits him to the logical implications of a dualistic position as I have endeavored to show. His whole theory of the datum as an essence which does not have objective existence also bears out the same conclusion.<sup>2</sup> Nevertheless, the account of perception flatly asserts that in veridical perception the datum is identical with or coincides with the object in external space, thus implying a different conception of the nature of consciousness in true and false perception.<sup>3</sup> The inconsistency in such a position is especially marked because the theory of the datum distinctly denies any objective spatial existence for the same. The alleged identity of datum and external object in the case of veridical perception can not be a matter of identity of existence for such a dualistic position. It can only be a matter of correspondence or identity of spatial structure in two orders of spatial existence. One is a self-existing spatial order. The other is a given spatial object and order which does not exist in external space at all. By external space is meant,

<sup>2</sup> *Ibid.*, p. 9.

<sup>3</sup> *Ibid.*, pp. 7, 50, 54.



not out in space, but outside of consciousness and the given order. The epistemological relation of perceived and external object can not be a matter of actual identity without also assuming an ontological relation of identity of existence.

The only logical solution of the ontological relation between the datum and objective reality is to give to each a nature which is consistent with its function in experience, without giving it the status belonging to the other. The datum must be a given existence which has no objective existence. The objective world must have an independent self-existence which can not be given in consciousness. It is not possible logically to attribute the character of either order to the other without assuming the relation of identity between the two and making consciousness a direct awareness of the objective order, and so giving the datum both a merely given and an objective existence, also making consciousness an intuition of both a mere datum and an objective reality. A dualistic position can only give it the former character, as we have seen. The whole problem is a matter of interpreting the status of space in terms of the principle of identity in difference. The relation between the two orders is spatial in both aspects of identity and difference. The identity between the two is a matter of correspondence of the internal spatial structure of each order, but there is also an ultimate difference in the spatial status of the two which is a matter of dependence, but can not be defined as a spatial relation, spatial relations being those which hold within each order. There is no one spatial relation including both. Any combination theory necessarily confuses these orders and attempts to reduce one spatial order to the other.

Although Professor Drake rejects the identification of the perceived object with objective reality, he, nevertheless, attempts to uphold a monistic theory which makes the perceived object and the objective world belong to the same spatial order. Instead of making the perceived object identical with the objective order as perceived, this theory makes it a derivation from the objective order. The theory has two aspects corresponding to the two functions of experience. One aspect sets forth a theory of the perceived object as the datum of experience which will make it a derivation from the objective spatial order; the other aspect consists of an explanation which claims to show how such a derivation can occur. The datum is given the status of an essence. An essence does not exist in the external order or in the given conscious order. It does not exist at all, but has merely the status of an ideal existence for thought. The conception of the perceived object as an essence thus gives it the derivative status required by the theory. The derivation is accounted for by the theory of what constitutes an ontological explana-



tion which regards the perceived object as a projection of an inner event, and imputation of existence to it at a point out in objective space where it does not really exist.<sup>4</sup> Because the perceived object is only an imputed existence it is not a real existence in space, but an essence or existence attributed to space by the mind.<sup>5</sup> It is only a projection of an inner event which is a real existence in space, not out where it is perceived, but in the brain.<sup>6</sup> Such an explanation thus professes to show how the perceived object is a derivation from the objective spatial order.

The difficulty with the explanation of the perceived object as a derivation from the external spatial order is that it is a combination theory requiring consciousness to be an awareness of both an external order and a merely given object. The alleged derivation must be either a conscious process or an ontological process outside of consciousness. Neither process alone will accomplish the purpose because the relation in question involves both the external order and the given conscious order. The derivation can not be a conscious process because consciousness can only derive an object from what is given to it as datum. It can not derive its datum. The problem of accounting for the existence of the datum is an ontological problem. Consciousness can only account for it by assuming an objective order of existence as its ground. The only existential relation that it can assign to the two is the causal relation implied in the assumption of an external order. Consciousness can not derive the given object from the external order or reduce it to the status of the external order because the existence of the given order is presupposed in the assumption of an external order to account for it.

The fundamental difficulty with any combination theory which seeks to give the immediate object of perception a separate status from objective reality, yet account for it as belonging to the objective order, consists in confusing the difference in character which must be attributed to the two in order to make the distinction. The conception of the perceived object or datum of experience as an essence confuses the spatial character of a given spatial order with that of the external order. The doctrine denies that the perceived object has existence in the external spatial order, but instead of regarding the object as a given object in a given spatial order directly perceived as given, it regards the same as an appearance in the external order which is not a real existence there, but only an imputed or projected existence.<sup>7</sup> The mistake is in defining the datum in terms of the status of a postulated objective spatial existence.

<sup>4</sup> *Ibid.*, pp. 26, 68, 71, 142.

<sup>5</sup> *Ibid.*, pp. 77, 161.

<sup>6</sup> *Ibid.*, p. 26.

<sup>7</sup> *Ibid.*, pp. 134, 142.



tence instead of giving it the quite different status of an immediate experience.<sup>8</sup> This confusion of the status of the datum arises because the immediately given aspect of the perceived object is mistaken for the assumption of objective existence for the perceived object which normally characterizes perception. It is only this attribution of objective spatial existence to the perceived object that has the character of an essence or existence imputed by thought. Critical method must distinguish the latter as a postulated existence from the immediately given aspect of the object. The doctrine of essence, however, assigns to the given object itself the status of an objective existence postulated by thought instead of giving it the status of an immediately given datum which enables thought to make the postulation. It is not the immediately given spatial object that is postulated by thought and which thus has the status of an essence, but the assumption of an objective and independent existence for the same. It is the assumed objective spatial order and not the given one that is a postulate. The latter must be directly given in order that experience may have a spatial character at all.<sup>9</sup>

The confusion of the given spatial order with an objective spatial order, and the consequent conception of the datum of experience as an essence, results in a reversal of the two functions of experience. The perceived object, which the author admits to be the immediate and certain aspect of experience, is given the status of an essence or ideal object of thought which is not immediately given in sense experience, but presupposes such as a datum from which it is derived.<sup>10</sup> This is exactly the result which the confusion of the datum with an essence leads to in Professor Drake's theory. The perceived object is taken as derived from a more immediately given datum. Thus, we have a complete reversal of the function of datum and essence in experience. The immediately perceived aspect of experience is given the status of a postulated object of thought and the real function of a datum is assigned to an alleged datum which is not immediately given in consciousness, but assumed as necessary in order that perception may take place.<sup>11</sup> Such an interpretation of the status and relation of the two functions of experience is untenable because of the contradiction involved in assigning to the datum of experience any other status than that of an immediately given existence. The reason it is self-contradictory to attribute the status of an essence to the datum is because the former is a postulated object which presupposes the reality of the datum or given existence as the basis of the postulate. The result of the confusion of

<sup>8</sup> *Ibid.*, pp. 8, 31, 132.

<sup>9</sup> *Ibid.*, p. 134.

<sup>10</sup> *Ibid.*, p. 134.

<sup>11</sup> *Ibid.*, p. 63.



the datum with an essence is to leave experience without any datum at all, for the immediately perceived content is the only material which can function as a datum in experience. The datum presupposed by the essence theory is only an assumption. Therefore, it also has the status of an essence in experience.

The assignment of the status of an essence to the perceived object does not necessarily signify that Professor Drake intends to identify the function of datum and essence. On the contrary, the doctrine really implies the function and relation of essence and datum as already set forth in the exposition of the critical method. The reason for giving the perceived object the status of an essence is to show that it has the derivative character belonging to the latter. The position, therefore, really implies that it is necessary for experience to have a datum which is an immediately given existence and not derived from anything else.<sup>12</sup>

The confusion of the given and external spatial orders also results in viewing perception as a relation between objects in the external spatial order instead of as a direct awareness of a given spatial object.<sup>13</sup> Such a conception of perception follows as a necessary step in the argument by which Professor Drake attempts to show that the perceived object or datum is an essence derived from a real existence in the brain. Because the perceived object is given the status of an essence it is necessary to regard perception as a process of deriving the same from a datum immediately given. The theory of derivation requires that this datum be a real existence in space. Perception is thus explained as the projection of a real existence in the brain out into space and imputing existence to it there. This position is untenable because perception can not be taken either as a thought process or a projection in space. It can not have the character of a thought process because there is no other conscious datum from which the perceived object can be derived. Neither can it be a projection in space because the projection would have to be ideal and not real. Otherwise the projected object would have a real existence where projected.<sup>14</sup>

The relation of a datum to its objective ground of existence is an ontological, not a conscious, process. The conception of perception as a projection of inner states attempts to define this ontological relation between the two orders as a conscious process taking place in the given order. It would give the perceived object an ideal status rather than that of an existence in the external order, yet it would make its relation to the external order, at once a conscious relation in the given order and a spatial relation in the external

<sup>12</sup> *Ibid.*, p. 7.

<sup>13</sup> *Ibid.*, p. 10.

<sup>14</sup> *Ibid.*, p. 18.



order.<sup>15</sup> The fact is that the relation can be neither. It is not a conscious, but an ontological or non-conscious relation. Neither is it a spatial relation in the external order because the perceived object does not exist in the external order. It has an existence in the given order, but the relation of the given order, or objects in it, to the objective order is not a spatial relation of the type holding between the objects in the external order. The relation is a unique causal relation.

The whole conception of perception as a projection of inner states and attribution of existence to them at another point in space is a mistaken ontological explanation of the nature of perception arising from the confusion of the given nature of the conscious order with spatial distinctions in the external order. The confusion consists in an attempt to regard perception as analogous to the relation between the brain and the object outside it in space. Assuming a corresponding spatial structure in the two orders, the theory attempts to make perception a relation of an inner state and the perceived object, and completes the identification by making the inner event an existent in the external order.<sup>16</sup> The fundamental mistake in this confusion of the two orders is in supposing that perception is a spatial relation in the given order. The given order contains spatial relations between objects in it, but there is no relation of this kind between consciousness and its objects. Given objects occupy the position in the given order in which they are perceived. They are not conceived first in one part and then projected into another.<sup>17</sup> Perception is a direct awareness of the given order. The given spatial order exists for consciousness, but consciousness is not a process in space nor a relation between objects in space either given or external.<sup>18</sup> The conception of consciousness as a relation between objects is a confusion of the same as a given process with the dependence of the nature of the perceived object on relations between the brain as an immediate condition and the real cause.

Another confusion necessary for the theory of derivation is the identification of an inner event as an implied datum with the objective order.<sup>19</sup> The concept of the perceived object as an essence presupposes such a datum because an essence is an ideal content or object which requires a given object as datum. The fatal difficulty with the conception of the perceived object as an essence derived from such a datum is that the alleged datum is not an actual datum

<sup>15</sup> *Ibid.*, p. 142.

<sup>16</sup> *Ibid.*, p. 144.

<sup>17</sup> *Ibid.*, p. 134.

<sup>18</sup> *Ibid.*, p. 175.

<sup>19</sup> *Ibid.*, pp. 73, 79.



given in consciousness, but an assumption made to account for the perception.<sup>20</sup> A datum must be a content in consciousness in order to function as a datum for thought. The alleged datum is not a conscious datum at all. It has the status of existence in the external order because it is not in the given order.

The real trouble with the confusion of the nature of the two orders in the case of the inner state lies in assuming that the conscious order contains an object corresponding to a brain event, whereas the conscious order never contains an object corresponding to a brain event. Although Professor Drake's theory requires that the inner event be at once an existence in space and a datum of consciousness, the conscious order always contains contents which correspond to something external to the brain event. The function of the brain is to serve as the immediate physical condition of a consciousness of a given order corresponding to such aspects of the spatial order as can act upon the brain state through a sense organ or nerve to produce a datum in consciousness. The brain state is always a means. It never produces a datum of itself. The whole fallacy with the notion of perception as the projection of an inner event lies in confusing the nature of the given order in consciousness with its physical conditions in the external order. The inner state is the cause of the given order, but it is not the datum of consciousness.

The whole attempt to avoid direct realism, yet make consciousness directly aware of another point in the external order as a datum, involves a misconception of the nature and function of consciousness. The combination theory requires that we substitute a causal theory of consciousness for direct realism which regards consciousness as a direct awareness of an external spatial order. The essential conditions of such a theory are that the brain as an immediate condition should serve to reproduce the structure of the external order in consciousness and not its own physical nature, which would defeat the purpose of consciousness. The attempt to interpret the datum in ontological terms leads to a conception of consciousness as an ontological process, using a physical event outside of consciousness as a datum to perceive a given spatial order. That is just the difficulty in confusing the two orders. Consciousness is not an ontological process producing its own datum. The datum is given in consciousness and produced by ontological conditions outside of consciousness which are physical.

Professor Drake has undertaken to account for the perception of objects by establishing a continuity of existence in space between the perceived object and real existence in the external spatial order.

<sup>20</sup> *Ibid.*, p. 63.



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Since he holds that the object, as perceived, does not have the status of an existence in space, he is confronted with the problem of showing how such an object can be continuous with existence in space. This can be done only by making the connection a conscious process. Consciousness is assumed to be aware of a brain event as a real existence and to project the same out in space as an essence which does not have real existence there. The difficulty with this theory is that consciousness is not aware of brain states. Therefore, the alleged projection of the same can not be a conscious process. Neither can it be a physical process, for that would make the perceived object a real existence in space.

In order to overcome the difficulty, Professor Drake assumes the existence of mental states in the brain.<sup>21</sup> The assumption, however, does not overcome the difficulty because the theory requires that there be a projection of a real existence given in consciousness. The assumed mental states are no more conscious than brain states.<sup>22</sup> They are existences in space the same as brain processes and the function attributed to them is not a conscious function but an ontological, or non-conscious function, the same as that of brain states.<sup>23</sup> Therefore the assumption of mental states is unnecessary because their function is already performed by brain states, while the alleged projection of real existences in space to become the datum of consciousness remains unaccounted for.

JOHN B. KENT.

BOSTON, MASS.

## PURPOSE IN THE DOCTRINE OF CONTRADICTION

**M**ECHANISM and purpose may be likened to characters in melodrama. The former is the cruel villain, the latter the innocent victim. And even the best of philosophers entertain the pious hope that the victim may make her escape.

Mechanism is just the scientific postulate of causality plus the assumption that cause and effect are external to each other. Taken in this sense it is a hard antagonist to meet: causality can not be denied, and cause and effect are in one aspect independent existences external to each other. But purpose is no less insistent: it is observed in the organism, to say the least.

We now have both mechanism and purpose on our hands, both demonstrable and each incompatible with the other. What shall be done with them? One thing to do is to treat the material world as

<sup>21</sup> *Ibid.*, 58, 81.<sup>22</sup> *Ibid.*, p. 59.<sup>23</sup> *Ibid.*, pp. 71, 97.



unreal. Bergson says that matter is created only when the creative current is interrupted,<sup>1</sup> that complexity and extension represent nothing positive.<sup>2</sup> To H. Wildon Carr, matter instead of being a positive thing is attained by diminution. It is a dead shell which life casts off.<sup>3</sup> Boodin claims that matter and mind are not mere abstractions, but he is careful to insist that they do not exist in isolation.<sup>4</sup> The universe as a whole is for him an organism or super-organism.<sup>5</sup> And the whole is dominated by creative genius.<sup>6</sup> But these solutions merely beg the question. Suppose, as the new realists, for instance, claim, that any knowing at all implies an independent object to be known; in other words, suppose that the worst is true and the world exists. Then the problem of how purpose attaches to matter would supervene.

Another way of handling the problem is that of the vitalist. The vitalist admits that matter exists, but insists on the equal reality of his vital spark or his entelechy. The question is, how does he conceive an entelechy. Driesch informs us that it lacks all the characteristics of quantity, that it is order of relation and absolutely nothing else, that it is not a kind of energy.<sup>7</sup> But when he has made this point he goes on further to maintain that entelechy may "suspend" becoming.<sup>8</sup> If it can "suspend" becoming it is a kind of energy figuring within the physical-chemical situation and is different from physical and chemical factors only in so far as it is conceived to come trailing clouds of glory from a supersensible world. In introducing an energy *ab extra* he is leaving the problem exactly where he found it.

Recently certain physicists have been understood to intimate that when it comes to quantum phenomena the rule of physical determination does not hold. Here, it seems to many, is the coveted source of an irrational spontaneity. If at the heart of things there is this contingency, it may well be that all physical laws are only instances of "statistical regularity." It may be that groups of human beings can manifest this regularity as groups and the individuals at the same time remain free. It may be possible, according to this view, to fall through the meshes of natural and social law into a deep well of liberty. Over this discovery there has been great rejoicing among the angels—the innocent victim has seemed

<sup>1</sup> Bergson, *Creative Evolution*, Mitchell's translation, pp. 239, 245.

<sup>2</sup> *Ibid.*, p. 209.

<sup>3</sup> H. Wildon Carr, *A Theory of Monads*, p. 310.

<sup>4</sup> John E. Boodin, *Cosmic Evolution*, p. 128.

<sup>5</sup> *Ibid.*, p. 35.

<sup>6</sup> *Ibid.*, p. 33.

<sup>7</sup> Hans Driesch, *The Science and Philosophy of the Organism*, Second Series, p. 169.

<sup>8</sup> *Ibid.*, pp. 178-179.



to escape the villain. But the essence of this doctrine is in its first phase the assumption that mere contingency is ultimate and in its second phase that mechanism can be reduced to a probabilistic basis. These assumptions should be subjected to severe metaphysical analysis to learn if they are true and, if so, in what precise sense. The outlook in this direction is not hopeful.

Among the solutions of the problem, that of the emergent evolutionists must be considered. Lloyd Morgan does not deny the existence of nature; in fact he is careful to insist that his principle is every whit as true of the atom, the molecule, and the crystal as of the organism.<sup>9</sup> Nor does he try to introduce purpose *ab extra* as an interfering energy.<sup>10</sup> Nor does he try to locate freedom in the heart of the atom. He is careful to state that purpose is a bracketing of a sequence, that it is an interpenetration of first and last, that it is, in short, an immanent unity. He even goes so far as to say that the Divine Purpose is a limiting concept for which finite purpose may reach, but which it can never grasp.<sup>11</sup> But he leaves us wishing that he had developed the idea of limiting concepts further, making explicit the logic of the approach to such concepts and treating their ontological significance. As it is, he leaves purpose and mechanism merely in contingent relations to each other with only a hint of a solution.

## II

In attacking the problem it must be frankly admitted that, anywhere short of limiting concepts, all things stand in relation; in fact even limiting concepts, from one angle, stand in relations. The new, empirically determined discontinuities that are astounding science, the pulses of energy, the quanta, the biological rhythms, the convergences of complementary characteristics, the mutations, though they are all usually accepted as naively as a child's playthings, are no exception to the rule. We are not driven, then, to the necessity of designating our discontinuities by the mystic word "Om" and swooning away into contemplative rapture. Relatedness is a necessary postulate of an intelligible world; it holds true, in some modified sense, within the atom and within the choirs of the angels.

But, granted this universal relatedness, what does it mean? Does merely standing in relations subject things to the causal system? Common sense would be skeptical about relations as such being causal. It has also been assumed in the interest of a realistic

<sup>9</sup> C. Lloyd Morgan, *Life, Mind, and Spirit*, pp. 66, 76-7.

<sup>10</sup> *Ibid.*, p. 283.

<sup>11</sup> *Ibid.*, p. 286.



epistemology that there are relations that do not make a difference in their terms, especially the relation of being known.<sup>12</sup> But if it be found that relations as relations necessarily make a difference in the things related, a better epistemology must be devised.

There can be little doubt that no relations within the knowing situation, except at the limiting concept of meaninglessness, are indifferent—this is a matter for psychological determination. In the world of chemistry, catalytic agents are so well known that it would be easy for a metaphysical chemist to generalize the principle and find every chemical circumstance and every other existent or subsistent in the world in some faint sense catalytic. In the physical system, with radio-activity and “cosmic rays,” and with other influences just ready to stream over the horizon, it is increasingly difficult to assume that any conceivable relation is without effect. It appears then, quite apart from *a priori* reasoning, that the case for universal interaction is overwhelming. To set up indifference now is an extremely doubtful undertaking. Furthermore, on more distinctively metaphysical grounds, if a relation were completely indifferent to its terms it could be clapped fantastically, irresponsibly, demoniacally on any terms whatever. But this is not possible. Actual relations and their terms are accordingly connected inextricably with each other. Thus every term becomes a cause.

At this point a further implication must be faced. Whatever may be said later for the internality of causes and effects to each other, it must be admitted candidly that not only can they be separated for methodological purposes, but that they also exist in their own right apart from each other. If they do not exist in their own right there is nothing to relate and the relation collapses. But, if we assume causes to exist external to the effects, they bring about the effects by impulsion and we have the mechanical system which is causing all the trouble. Every event, mental or physical, is determined by a limitless set of causes external to itself. This is mechanism with a vengeance. If this be true what shall be done for purpose? There is no “as if,” there is no smoke screen, there is no gauzy film of illusion to protect her from the villain.

### III

Let us now view the matter with equal candor from the other side. In purpose a later event in some way determines an earlier event by contemporaneity or identity with it. Does mechanism itself suggest such a drawing together of cause and effect?

One way to approach the question is by an analysis of causal

<sup>12</sup> E. G. Spaulding, *New Rationalism*, pp. 84–86.



analysis. Event *A* occurs. With more or less analysis as the case may demand, *B* is hit upon as the uniform antecedent. On further analysis a new aspect of *A* is traced to event *C*. Still further analysis brings out a third aspect of *A* which is traced to event *D*. And the analysis of *A* and the determination of the causes of its various aspects may continue indefinitely.

But every mechanical system implies a goal at which every cause and every effect would be perfectly determined. At this goal or conceptual limit the effect becomes a cause of the cause. The empirical sequence of cause and effect is admittedly temporal. From this viewpoint the beginning and the end of each are definite. One billiard ball hits another with a sharp click and the second ball shoots across the table. But further study progressively transforms the situation. The cause and effect become parts or aspects of systems that are always operative on each other; there is no moment of sharp contact between them; the effect as affected by the cause is at any moment that may be selected already acting as a cause upon the cause. As the moment of action is divided the reciprocal influences become more nearly simultaneous. At the conceptual limit of division cause and effect are reciprocally and timelessly active on each other, and interaction thus becomes "field."

We have spoken so frequently of limiting concepts that it is a pertinent question at this point whether such a concept is a mere figment of the fancy or a real part of the world. Light may be thrown upon the question by considering what is meant by the reality of ordinary objects. Does their reality consist of solid kernels or nuclei concealed within them? If that position is assumed, the kernels or nuclei seem to imply deeper kernels or nuclei and they in turn still deeper essences, until the question arises whether we mean kernels or nuclei at all or an ever retreating meaning. If the possibility of new meanings were not forever ahead of us we should punch through into nothingness—reality would evaporate. The limiting concept is an attempt to grasp the ontological significance of this infinite retreat.

"Field" as a limiting concept has this ontological significance. It is suggested that the intention and the end to be realized, or the earlier and the later event, now join hands in this ontological goal. At infinity causation turns thus inside-out and becomes something akin to purpose, extension becomes intension; or, as A. H. Lloyd intimated a number of years ago, infinity is an innuendo for another dimension.<sup>13</sup> We have here an intimation at any rate of purpose growing out of mechanism. The villain thus promises at infinity to marry the girl.

<sup>13</sup> A. H. Lloyd, *The Logic of Antithesis*, this JOURNAL, Vol. VIII, No. 11, p. 288.



Let us now approach the question from another angle. What happens to *A* in this process of determining its causes? Does it retain its virginal and mechanical innocence or is it being seduced and contaminated by internal relations? To attempt to answer this question we must turn our attention again to the nature of relations. Not only do terms stand apart, from one angle, in a mechanical system, but relations at the same time *relate*. All relations may be conceived for our present purpose as lying somewhere between the limiting concept of the one-to-one identity of an event with itself and the limiting concept of complete otherness. In short, all relations are dilutions of one-to-one identity. Causation as ordinarily conceived differs from other relations only in being less diluted. The sense of compulsion that is felt in the relation of cause and effect is the sense of the identity of the first term persisting through the ensuing changes. Thus when *A* is progressively correlated with its antecedents it is progressively identified with them. As the identification proceeds *A* becomes less contingent and more a part of the things around it.

As soon as this principle is admitted we have, of course, a measure of identity of earlier and later events which is of the nature of purpose, but inasmuch as general purpose is usually the bone of contention, it may be well to exhibit its implicit nature by carrying the process to its logical limit. The limit of this development comes when there is no aspect of *A* that remains unexplained, that is to say, when there is no aspect of *A* left contingent. That means the complete identification of the event with its antecedents. As this goal can never appear in the temporal sequence, it is an ideal limit.

The question now is whether the antecedents with which *A* is being progressively identified constitute a flat level or a system. The set of antecedents would seem to be a system instead of such a level in that the various events with which the several aspects of *A* are progressively correlated are not all bound up in one term, but are different events having differing relations among themselves and to the world in general. Furthermore, event *A*, though tied by threads of identity with its several antecedents, yet remains only partially assimilated so far as any one antecedent is concerned. Event *A* would thus, instead of being collapsed into its abstract beginnings, be adopted into a family of causes, that is to say, into a social or an organic whole.

#### IV

We now have on our hands as the necessary implication of terms and relations a mechanical system which gives a hint of purpose at its limiting concept and a system of internal relations which develops into an organic whole at its limiting concept. Shall we abandon



either and dogmatically or sentimentally assert the exclusive reality of the other? The contention here presented is that both sides should be retained in their profoundest ontological significance as necessary parts of the total relativistic situation. Mechanism and purpose flow with equal necessity from our doctrine of terms and relations.

What we have is neither purpose introduced *ab extra* nor purpose in an idealistic world fixed up for it. But things go as they go and purpose and mechanism, disentropy and entropy, God and the Devil, are among the inevitable implications of their going. And every lusty citizen should have faith in this whole pantheon of gods and demigods.

It might easily be charged that this is only a disguised absolute idealism. Exponents of the latter doctrine may start out in the same way to insist upon the interrelatedness of things and to develop the implication of complete organization or complete ground. But the difference is this: absolute idealism exalts complete ground to be the sole reality, the unique things of naïve realism are sunk without a trace in the absolute, ultimate contradiction is taboo; whereas the theory here presented insists upon the reality of complete ground, but at the same time stresses with equal force the reality of discrete things, letting them stand in violent contradiction to complete ground which is their implication. From this latter viewpoint naïvely accepted things, with all their implications of complete mechanism, are the limiting case in one direction and complete ground the limiting case in the other, no desperate effort being made to keep all things within a non-contradictory whole and then by hook or crook to maintain their individual characters.

It might also be easy to confuse this doctrine with that of new realism. New realism has, indeed, offered much to assist in maintaining this position. The difference, however, lies here: though new realism is much more hospitable to thorough-going contradiction than is absolute idealism, it does not accept it as universal; it puts conflicting terms in estranged universes; to put the issue in a nut shell, it does not admit the Herakleitean conflict. This doctrine, on the contrary, accepts the *A-not-A* formula as representative of all actual things. It can, therefore, take things as existing in their own right, as being free, as being determined by antecedents, as being parts of mechanistic systems, as being at the same time proposed within complete ground. It can, in short, let contradiction do its worst.

There are vitality and cleanliness in contradiction. When many philosophers would lie down in the bosom of deity, or even find freedom in the chinks of the causal system, there is hope in the



doctrine of the intellectually hardbitten Herakleitos. The advantage of a doctrine of conflict is that it allows scientific determinism and purpose to come to terms without stultification.

CHARLES M. PERRY.

UNIVERSITY OF OKLAHOMA.

## BOOK REVIEWS

*Réalité et Relativité.* GASTON RABEAU. Paris, Marcel Rivière. 1927. Pp. vii + 282.

This study of M. Rabeau serves two purposes: first, that of criticizing contemporary "relativism"; second, that of showing how a Thomist could meet the legitimate criticism of the "relativists."

By "relativism," M. Rabeau means what has become almost endemic in European philosophy, namely, the shift from substance to function, from concepts to judgments, from facts to intuitions. The relationship between these three shifts is logical enough. Having first dissolved substance into functions, one must find an adequate means of expressing them. This means is found in judgments. But now arises the question of what one is judging. Substantialism had answered, Facts; relativism answers, Intuitions. For facts are the epistemological counterpart of substances; whereas intuitions are the counterpart of functions. It is clear that M. Rabeau is studying here an aspect of the reorientation of modern thought from eleaticism to heracleiteanism, the rehabilitation of change and multiplicity, and the disgrace of permanence and unity. It is part of what Mr. Wyndham Lewis calls the "time-cult."

As typical of functionalism, M. Rabeau chooses Cassirer and presents his readers with a careful and detailed exposition of *Substanzbegriff und Funktionsbegriff* and of *Das Erkenntnisproblem*. It is obvious that the fundamental premise of this type of philosophy would be intolerable to a Thomist; the premise, namely, that the categories are not fixed forms of the mind, but "living motives of thoughts, 'which pass through the multiplicity of its particular forms and realize themselves in the creation and formation of ever new categories.' " This in turn rests upon the equally intolerable postulate, that the logical value of ideas is uniquely constituted by the use which the mind makes of them and is in no way an intrinsic property, recognized but not created by the mind. The basis of M. Rabeau's criticism is that this functional interpretation of knowledge involves an infinite regress. For functions are expressed as functions of something, which something in turn must be a function of something, and so on *ad indefinitum*. There seems to the critic only one



way out of the difficulty, to wit, the existence of an Object (substance) "*qui serait complètement déterminable par des principes*" (p. 59). The existence of such an Object depends upon the relation of human knowledge to reality. If knowledge represents nothing beyond itself, then M. Rabeau thinks one would land in nihilism, in which language and science would be meaningless. If they are to have meaning, then there must somewhere be an unconditioned Being for them to mean.

The representative of the shift from concepts to judgments is M. Brunschvicg. After having converted things into systems of relations, the mental substitute for the thing (the concept) had to be converted into a system of judgments (p. 62). The intellect no longer sees, it binds together. What it binds together are intuitions. The postulates of this theory, according to M. Rabeau, are as follows:

(1) Judgments are prior to concepts both in the temporal order and in the ideal order of thought.

(2) Concepts are obtained only by the dissection (*démembrement*) of judgments and can not exist in isolation.

(3) Concepts therefore have meaning only through the judgments which determine them. Some of these judgments are basic, i.e., logically primitive, but are not therefore held to be true. What is true is their implications.

(4) The mind must be left free and spontaneous, unlimited by finite data. It must give up analysis, which ends in the elements (sensa), synthesis which ends in the completed whole (abstractions), for relating which can presumably go on forever.

These postulates are needed to account for relations. In reply to them, M. Rabeau attempts to show (p. 71) that the theory of concepts implies a knowledge of relations and does not prevent the mind's infinite progress; that on the other hand the theory of the absolute primacy of judgments is forced to admit (a) in judgment "the perception of a universal objective reality," (b) in reasoning "a necessary linkage which exists not only among the operations of the mind, but among the objects to which the mind applies its own operations" (p. 72).

The concept for Saint Thomas has three aspects (*Ib.*). It is that which one understands, that by which one understands, and the process of understanding. But each of these meanings requires relations. The object of understanding is the *habitudes* of things, necessary relations found in things because of the nature of space, or time, or matter, and the like. The means of understanding can *a priori* be seen to be relational, since a means is always relative to some end. The process of understanding is necessitated by our in-



ability to intuit the essential nature of things; we mount step by step; "thought is a dynamic process which one can never say is completely finished" (p. 76). But a dynamic process can not be realized without relations. Hence the Thomistic theory of concepts does not eliminate, but requires relations.

It is questionable whether M. Rabeau is here aiming at the right target. Do the anti-conceptualists maintain that Saint Thomas does not utilize relations, that his theory ought not to utilize relations, that his theory can not explain relations, or that we comprehend things by their relations and not by their inner essence? It is clear that if thought is a grouping of essences which swim in and out of consciousness, identical with that of which they are the essences, there could be no such thing as relations. But not only did Saint Thomas never hold such a view, but no one ever suspected him or any other epistemological dualist of holding it. The question is rather one of fact, namely, how do we comprehend things, by essences or by "relations"? And what that question really means is, Have things an eternal unchangeable essence inherent in them by which they are known, or have they specific characteristics which vary according to their relations to other things? Does the concept "horse" indicate the presence of "equinity" which theoretically, i.e., by God, could be comprehended in isolation from all other things, or does it denote a system of relations? The second alternative does not mean, Is a horse's essence known by or constituted by its or the horse's relation to other things? Nor does it mean, Is the horse a system of relations? It means simply, Is the horse known by its relations to other things? The functionalist seems to say, Yes; the conceptualist, No. This in spite of the fact that Saint Thomas's theory of concepts necessitated the existence of relations, since for some minds—and presumably for human minds, essentially if not accidentally—there is an essence, *equinity*, which can be contemplated much as one contemplates a color.

That conceptualism assures the mind's freedom need not concern us here, as I have but the haziest idea of what the mind's freedom consists in or why it is important or why the bestowal of it should make a theory true or false.

That the theory of judgments implies the perception of a universal objective reality is more important. M. Rabeau's first argument is drawn from inductive generalization. When we unite in a single concept the similarities of a number of instances, is the resultant concept simply "an operation of thought which joins together the predicates of different subjects?" (p. 105). Again, when we conceive of an irrational number, do we not try to explain it as



a new kind of number, by some theory such as that of "cuts" in the series of real numbers, to give it an intrinsic meaning and not simply to attribute to the new symbol the possibility of being added to, subtracted from, and so forth? The reply to these questions is that the meaning of these concepts is, to be sure, not determined by the judgments which affirm them, but by anterior judgments, "jugements virtuels" in the words of M. Goblot. These judgments correspond to the primitive propositions in a logical system and, M. Rabeau seems to think, can be traced back to a set of really primitive propositions, *absolument premiers dans l'ordre de la pensée ou dans l'ordre de l'être* (p. 109). Are we to say that these basic principles mean nothing beyond themselves? Are they simply images? Are they dependent upon the exercise of the Kantian categories and are thus without transcendent reference? No, M. Rabeau concludes, we "mean" something by them when we assert them. When we say, " $p$  is equivalent to  $q$  means  $p$  implies  $q$  and  $q$  implies  $p$ ," we mean that real propositions are thus characterized and not merely that "we think they are."

One must distinguish between what we think and what we ought to think. It is true that common sense backs up the epistemological dualist in assuming that propositions denote something not themselves. And it would be difficult, if not impossible, to indicate an essential difference between the ontological status of day dreams and science (to say nothing of illusions and veridical perception), if our primitive ideas were not true of something. But at the same time, the proposition that they are true of something does not tell us what they are true of. Moreover, since a given proposition may be implied by several propositions (some of which must be false), one is never sure that the premises discovered by logical analysis are either the only possible premises or are even true. There is, therefore, more reason than appears from M. Rabeau's discussion for maintaining that they have an esthetic rather than a metaphysical value, rounding out a theory, but not necessarily describing a world. Consequently one is in the position of asserting the existence of unknown things in themselves or even of an Unknowable, if one relies on their existential implication to found a universe.

The same criticism which destroyed substance in the objective world and concepts in the intelligible, now sets to work to destroy facts in the empirical world. Sociological and social facts, physical facts, historical facts, psychological facts, all disappear into correlations and extensions of moving, restless intuitions. Facts become subjective constructs. Scientific experimentation is replaced by intuition. But intuition is "rigorously personal, incommunicable by discourse, and, in fact, in so far as it is knowledge, it is inacces-



sible" (p. 200). But, says M. Rabeau, in observing our inner life, we shall discover in it an empirical discontinuity: psychological facts. These psychological facts, once analysed, will appear to be "acts" meeting things or substances. The analysis of their meeting—action and passion—will reveal the external fact. Finally, both internal and external facts will be posited as realities which human action lives upon. "After having recognized the reality, the objective independent unity of the psychological and historical fact, perhaps we shall be able to restore reality to the historical and even to the social fact" (p. 202).

This traces the program of the last third of M. Rabeau's instructive study. It will perhaps suffice to suggest the general tenor of his argument. We can not hope to do more than that here, for his reasoning is so compact that to abridge it would be hopelessly to deform it.

GEORGE BOAS.

THE JOHNS HOPKINS UNIVERSITY.

*Die Axiome der Euklideschen Geometrie.* EMIL BERGFELD. Neue Psychologische Studien. Bd. III, Heft 2. München: C. H. Beck'sche Verlagsbuchhandlung. 1927. Pp. 91.

*Zur Syllogistik.* FRIEDERICH WEIDAUER. Neue Psychologische Studien. Bd. III, Heft 4. München: C. H. Beck'sche Verlagsbuchhandlung. 1928. Pp. 204.

The impasse to which classical association theories lead, has compelled modern psychology to renounce the atomism implicit in those doctrines. Newer tendencies emphasize "wholes" or integrated situations of various kinds as points of departure for study. The monographs under notice are two of a series edited by Felix Krueger, director of the Leipzig Psychological Laboratory, a proponent of an organic point of view in psychology, although a critic of the *Gestalt* movement in some of its forms. The chief contributions of the Krueger school to contemporary discussion seem to be the recognition of at least two kinds of wholes: simultaneous-complexes in which the totality is experienced in its unitary flavor *together with* the disposition of its parts; and successive-complexes, in which the whole is experienced as a unity but its parts are discovered successively, not *with* the whole although *within* it. There is a further recognition of certain psychic constants, habituations, which, however, have to be taken genetically. The two studies here considered are presumably applications of these views to strictly philosophical questions, although after making formal acknowledgments of indebtedness to Krueger their chief borrowing seems to be the epistemology traceable to Kant.



For Bergfeld, whatever is given in knowledge is given immediately (and therefore certainly) only as a state of consciousness. And the Kantian affiliations of the school become evident when it is asserted that the axioms of geometry are intuitions valid for the subject only (p. 139). The task Bergfeld sets for himself is to discover the extent of the certainty of geometric axioms: in particular, of Hilbert's well-known set. An analysis is therefore proposed of the data of consciousness for criteria to judge the language, meaning, communicability, and generality of the axioms of geometry.

The major portion of the work is the setting up of a series of definitions and distinctions, in terms of which the problem is re-defined. (1) A symbol, or set of symbols, is said to be self-evident, when in "experiencing" it, its meaning is "in consciousness" at the same time as the quality of the symbol. Thus the set of symbols "The figure is a triangle," is said to be self-evident, while "The figure is a chiligon" is only reflection-evident, since reflection upon the meaning of "chiligon" must first occur before the sentence acquires meaning (p. 145). This distinction is clearly valueless, for in so far as we *know* a symbol in its referential character, the symbol in its own right as a definite entity is *not* an object of knowledge. The correlation of certain qualities with meanings is a matter of skill, training, and end-in-view, so that distinctions based upon alleged immediacy of evidence are mythical. (2) The existence of other minds not as states of our own consciousness, is next inferred by analogy to our own behavior, although upon the nature of this analogy discreet silence is maintained (p. 154). Since only those meanings whose *expression* is identical with their meaning are held to be directly communicable, while in cases of symbolic representation of meanings communication is recognized as involving inference, the question of the communicableness of the axioms is raised. (3) Next, axioms are said to be necessary if, when certain elements are given, the connections between them are also given immediately and unconditionally; while axioms are empirical if such connections vary from instance to instance. Necessity is thus a function of intuition; it has apparently no foundation in the nature of the subject-matter. (4) We are said to know *a priori* when we experience a necessary synthesis of elements, although "experience" is required to analyze out the conditions of its possibility (p. 163). Of course, Bergfeld never questions his Kantian heritage, and modern work on the foundations of logic and geometry has left him secure in his orthodoxy.

With a complete disregard of the significance of practice and testing considerations of validity, if geometry is to be considered a branch of physics, Bergfeld finds that Hilbert's axioms fall into two



sections: Section *A* contains Groups 1 and 2, Section *B*, Groups 3 and 5. The axioms of Section *A* are a simultaneous-complex, self-evident, directly communicable, necessary, and *a priori*; the axioms of Section *B* are a successive-complex, reflection-evident, indirectly communicable, empirical, and *a posteriori*. Thus only the former are "axioms"—the latter are mere postulated conventions.

There is an appendix to prove that Hilbert's parallel postulate is not independent of the others. By defining parallel lines as equidistant, Bergfeld believes he has demonstrated that such lines exist and that the theorem for the angle sum of a triangle follows independently of a special axiom. The confusion here is great, for every mathematician knows that equidistance and parallelism are distinct ideas; and the notion of "same direction" as a definition of parallelism has long ago been shown circular. The error in the "proof" itself is a "howler" (p. 206).

Those who have believed with recent logicians that logic has made tremendous strides since Aristotle, may be shocked to learn that for Weidauer it is all a mistake, and that in fact (Kant's statement to the contrary notwithstanding) logic has retrogressed and has been led astray (p. 637). According to Weidauer, the subject-matter of the Aristotelian syllogism is valid *demonstration*, for which the truth of the premises is indispensable. Hence Aristotelian doctrine is the doctrine of the forms of *proof*. Post-Aristotelian syllogism, however, is not concerned with proof, but with the *inferability* of the conclusion from two premises, the demonstrative character of the relation being ignored. Hence for post-Aristotelian doctrines the truth of premises is of no account, and they are a consideration of the forms of inference as such (p. 449-50). Aristotelian logic is existential, recognizing as the single ground of inference the well-known *dictum*; while subsequent logics distinguish so-called categoric from hypothetical and disjunctive syllogisms, and destroy the simplicity of the science by offering a dozen or so different principles of inference to validate their procedure.

Weidauer thinks it is time to call a halt to this riot of doctrines and to write the prolegomena to every future logic. The *act* of inferring, the mental aspect of concluding, is made central, and logic is taken as a branch of psychology. For, it is maintained, propositions are the content of the corresponding thought-acts of inference, and it is the same whether one says that a conclusion follows from the two premises or whether one says that from the consciousness whose content is the major and the consciousness whose content is the minor there results the consciousness whose content is the conclusion (pp. 451, 633). Why, on this reasoning, every science does not become a part of psychology, is not clear. Of the thought-act,



is predicated a unity; it is a successive-whole, having, however, a relative completeness; it requires, besides its logical aspects, an element of will, feeling; a condition of its existence is a non-phenomenal psychic structure (p. 476). Although the study of these psychic "dispositions" is to be socio-genetic, there is really never an escape from the narrowly conceived subjectivism which dominates the author's thought.

Weidauer recognizes sixteen forms of inference. He suggests no principle of derivation, and admits his tabulation to be incomplete. The forms fall into two groups. Group *A* is characterized by the fact that from two premises and by means of a verbally unformulated "insight," the conclusion follows. The form of insight is either: (a) the subject of the minor is found among those things thought of in the major; or (b) the subject of the minor corresponds to that which is thought of in the major. Group *B* is characterized by the fact that from two premises the conclusion follows *immediately* (466-67).

Weidauer has had a splendid opportunity to emphasize the mediate nature of all inference, the mediation occurring through a guiding principle which is the formulation of habits successful in dealing with specific subject-matter. The rôle of leading principles as Peirce used the term, has not been sufficiently emphasized nor its significance for logic made clear. As it is, by calling upon immediacy, self-evidence (so long ago disbarred in mathematics as vouchers for truth) to get us out of logical difficulties, Weidauer has remained faithful to the Cartesian-Kantian tradition so impotent to account for the fertility and self-corrective attitude of science. Some of his own examples make it difficult to see why Groups *A* and *B* are distinguished. The following syllogism belongs to Group *A*: (1) The moon passes through the earth's shadow this month; (2) If the moon passes through the earth's shadow an eclipse of the moon occurs; (3) An eclipse of the moon occurs this month. This inference is justified by Weidauer on the ground that what is thought of in (1) corresponds to the subject of (2) (p. 462). But the following is found in Group *B*: (1) The captain of Co. A is wounded; (2) The captain of Co. A is Captain Smith; (3) Captain Smith is wounded. This conclusion is justified as an *immediate* inference (p. 465). It is not obvious why the rule which was found essential in the first case can be dispensed with here.

The criticisms offered by Weidauer upon recent logicians are sketchy and full of misapprehensions. Russell's doctrine of logical intuition, for example, is interpreted as a sensory apprehension of spatial relations (p. 622). But perhaps the best index of the character of the work is that, although its set object is the reconstruction



of logic, of its 204 pages it devotes 25 to this task, 116 pages to a long summary and critique of the two *Analytiks* of Aristotle, and 21 pages to excerpts with brief comments from more recent writers.

ERNEST NAGEL.

NEW YORK CITY.

*Temps, espace, relativité.* ANDRÉ METZ. Paris: Gabriel Beauchesne. 1928. Pp. 211.

*The Theory of Relativity.* LEONARD SIFF. N. Y.: Joseph Lawren. 1926. Pp. 46.

M. Metz' delightful little volume is in some sort a sequel to his polemical work on relativity, first published in 1923 (*La relativité*, Paris, Chiron). The present book sums up the results of discussions of the intervening years, but in the form of an elementary exposition of the theories of Einstein. The author addresses the cultivated public in general, and to that end studiously avoids the language of mathematics and introduces a number of very simple but helpful diagrams. Unlike most expositors of the subject he begins far enough back among the assumptions of common sense and the experiences of everyday life, and refrains sufficiently from elliptical modes of statement, to make his account really intelligible to his chosen audience. This resultant exposition is a model of clarity and precision. The interests of the philosophical reader, moreover, have been kept explicitly in view. M. Metz' own very interesting interpretation of the philosophical significance of the theory of relativity is of a decidedly realistic order. He refers in terms of the highest approbation to M. Meyerson's *La déduction relativiste*; and it appears that he has himself written an account of M. Meyerson's philosophy of science (*Une nouvelle philosophie des sciences, la Causalisme de M. E. Meyerson*, Paris, 1927). Towards M. Bergson's *Durée et simultanéité* he shows himself less complaisant; yet he nevertheless adopts some of M. Bergson's characteristic distinctions, e.g., that between qualitative or pure duration and physical duration, and that between two sorts of simultaneity. At a number of points his procedure brings to mind Professor Bridgman's conclusions concerning the "operational" nature of scientific concepts (*The Logic of Modern Physics*, Macmillan, 1927).

The fundamental nature of M. Metz' interpretation may perhaps be suggested by the following. The four-dimensional "space-time" of Minkowski is only an *ens rationis*, a mathematical abstraction. Time resists all attempts at complete assimilation to a spatial dimension. The order of events in time is fundamentally irreversible. "The movement of the instruments of measurement may, in certain circumstances, influence measurements of duration or of



length" (and this is not merely "a question of more or less fictitious representations arising in the minds of observers . . . as an effect of their imagination or of their calculations; it is solely a question of measures really registered by instruments"); "but it is certain that it can not influence the intrinsic contexture of events. Events are—and that too independently of observers and methods of measurement—such is the metaphysical postulate implicitly involved in every physical investigation."

In Mr. Siff's essay (written originally in 1921) we discern little virtue. It appears calculated neither to inform the uninstructed nor to advance the initiated. The non-scientific reader (to whom the volume seems nevertheless to be addressed) is treated decidedly *de haut en bas*, but his confidence is nevertheless not wholly inspired. He is baffled by hearing of "Space in no sense real" and "Time a convenient fiction"; and he wonders why the theory of the relativists should ever have been invented at all if it were really the case that "The fundamental contradiction induced by the Michelson-Morley experiment . . . could be resolved by the no more startling assumption than this, namely that . . . the ether simply did not exist" (Cf. C. D. Broad, *Scientific Thought*, pp. 122-123).

RALPH M. BLAKE.

HARVARD UNIVERSITY.

## JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. LIII Année, Nos. 9 et 10. Correspondance entre Destutt de Tracy et Maine de Biran. Le problème sociologique du rire: *E. Dupréel*. Des lois régissant la variation de l'intensité sensorielle en fonction de l'intensité du stimulus: *H. Piéron*. Le pragmatisme religieux. A propos de la "Profession de foi du Vicaire Savoyard": *A. Schinz*.

MIND. Vol. XXVII, No. 148. The Continuity of Space and Time: *C. A. Strong*. McTaggart's Determining Correspondence of Substance: a Refutation: *John Wisdom*. On McTaggart's Criticism of Proposition: *R. M. Blake*. Cook Wilson's View of the Origin of "Judgment": *Richard Robinson*. Discussions: Singular Propositions: *J. A. Chadwick*. Is There a Moral End?: *J. H. Muirhead*.

THE MONIST. Vol. XXXVIII, No. 4. The Search for Certainty: *L. P. Chamber's*. Neo-Pragmatism and the Ways of Knowing: *C. W. Morris*. A Personalistic Conception of Nature: *A. K. Majumdar*. Relativity in Logic: *Paul Weiss*. Egoism: *C. M. Attlee*. The Foundations of Adler's Ethical Philosophy: *Joseph Ratner*. Dewey's Theory of the Moral Good: *Paul Crissman*. The Idea of God in a Philosophy of Events: *W. F. Clarke*. Can Psychology Contribute to the Study of Linguistics? *J. R. Kantor*.



University of California Publications in Philosophy: The Problem of Truth. Berkeley: University of California Press. 1928. 263 pp.

Leary, Daniel Bell: Modern Psychology, Normal and Abnormal. Philadelphia: J. B. Lippincott Co. 1928. 441 pp. \$4.00.

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Pratt, James B.: The Pilgrimage of Buddhism and a Buddhist Pilgrimage. New York: Macmillan Co. 1928. xii + 758 pp. \$3.00.

Wallace, William K.: The Scientific World View. New York: Macmillan Co. 1928. ix + 316 pp. \$3.00.

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## NOTES AND NEWS

The Twenty-eighth Annual Meeting of the Eastern Division of the American Philosophical Association will be held at the University of Pennsylvania, Philadelphia, Thursday to Saturday, December 27 to 29. Sessions are being arranged, with specially invited speakers, for discussion of topics in the Philosophy of Religion and in the Theory of Knowledge.

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Dr. Harold A. Larrabee has been promoted from associate professor to full professor of philosophy at Union College.

Professor Joseph A. Leighton of Ohio State University is Visiting Professor of Philosophy at the University of Southern California for the year 1928-29. During the past summer session, he served as visiting professor at the University of California at Los Angeles.

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The Heidelberg Academy announces that a new critical edition of the writings of Nicholas of Cusa is in preparation. Further information may be obtained from Professor Ernst Hoffmann, University of Heidelberg.



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Immediate Experience. D. A. PIATT.

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# THE JOURNAL OF PHILOSOPHY

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## THE JOURNAL OF PHILOSOPHY

## A THEORY OF PERCEPTION

THE theory of perception, and in a wider sense a theory of consciousness, which I am proposing, was conceived in a cheerfully conscious opposition to Bergson and Whitehead, who both view sense-perceptions as mere reactions of organic bodies, thus perpetuating the basic tenets of English sensualistic epistemology. I agree with both thinkers that the inorganic processes are only prehensible for us by the physiological sense-impressions; but I differ from them in maintaining that perceptions are not derivative of bodily processes. The value of divergent philosophical views can thus be looked upon as being proportionate to the degree of opposition they are capable of eliciting. It is by friendly opposition that one's own standpoint can crystallize itself.

Surveying the history of epistemology in perspective, two divergent trends disclose themselves in the critical investigation of the human understanding. One studies its nature by starting with sense-impressions, there where its activity is not yet in evidence; but where it is incited. The other examines the nature of understanding at the apex of its completed realizations, embodied in tangible knowledge and opinion, and represented by linguistic and mimic symbols. Greek epistemology was preeminently symbolical in character as far as its main representatives were concerned. With them the examination of the sensory life is more in the background, while greater energy is expended in the elucidation of the content of linguistic concepts and ideas. Modern thinkers have striven to extend the Greek logic of concepts under the cover of either a defensive or hostile attitude. Recent theories of human understanding are based largely upon a close study of sensory life. In contrast to the ancients the moderns are mainly interested in the construction of an "impressionistic" epistemology. By this I mean that, if epistemological studies desire to get a hearing to-day, they are compelled to start with a critical analysis of sense-perceptions. Whether we know modern philosophy or not, our modern mind is thoroughly impregnated by the sensualistic theories of human intellect. We are prone to identify knowledge with experience, observation, and experiment. Epistemology must, therefore, start with a theory of perception, it being the door to the science of consciousness.

Sensualistic and psychological epistemology is historically represented by Locke, Berkeley, and Hume. Their fundamental and



common notion is that sense-impressions are the primitive components of knowledge. Their divergent individual views are merely so many variations of an elemental, purely empirical, notion. What the sober-minded Locke is able to conceal and express in agreement with common sense, appears in grating dissonance in Berkeley, and in devastating clarity in the incomparable Hume. The triumvirate of English empiricism and its greatest successor, modern psychology, strive with tooth and nail to destroy the difference between acts of consciousness and biological sensory functions.

The slogan of the sensualistic revolution as stated by Locke is, that sensations are ideas. Sense-impressions are mental processes. Its favorite term, "idea," serves to hide the difference between concepts and sensations. Sensations are our simplest thoughts. Locke shares with most minds the notion that sensations are things with which we are familiar. All higher abstractions and concepts are merely a composition of simple ideas or sensations. This view of the primitive ideal character of sense-impressions has become the chief dogma of modern psychology.

In opposition to Locke I shall maintain that our sense-impressions possess no ideal cognitive character. In order to demonstrate my contention, it will be necessary for me to show in some detail that sense-impressions are by nature not simple; but absolutely complex.

Every sense-impression constitutes an event which as such occupies a certain duration. They must be conceived as consisting of an unlimited number of temporal phases. We all know that it is impossible for us to hold the minute temporal intervals of which a sensation is composed, mentally apart. It is essential that we become conscious of this human inability. We are unable to follow with our eyes all the various phases of a movement. Its minute individual phases blend for our vision.

Experiments with the rotating color disc illustrate distinctly that the events within the minute temporal slabs of a visual sensation remain unknown for us. Were it possible that our sensations could penetrate into the processes of a thousandth of a second, the various colored sectors of the rotating disc would not blend for us, and no fusions would occur.

Phenomena in motion as well as phenomena at relative rest conceal the existing numberless temporal phases for us. If we look for a second on a colored spot on the wall, we are unaware that this second consists of a continual re-creation of the visual sensation. One is compelled to have recourse to artificial means in order to become convinced that the event during a second is constant. We can close the eyes once, twice, or three times, and thus obtain one, a second, or a third visual sensation. No whole second is required for



the obtainment of a visual sensation. One has such a sensation already during a half or a third of a second. Nevertheless, we fail to notice the twofold or threefold repetition of the sensation during a second, and it seems to us that at the close of a second, the identical sensation is still present. The visual sensation is, so to say, frozen in, and we have the singular illusion that our particular sensation is constant. Every sensation is a continuously flowing event. The perception of a phenomenon at relative rest is only possible because the specific sensation is being continuously re-created during the sequence of a second. As it lies not in our power to penetrate into the smallest temporal phases of our sensations by sheer perception, we fail to note their continuous re-creation. There are probably innumerable rhythms in a sensation during the duration of a second. The secret of these sensory rhythms is hidden from us. One phase of a sensation tends to conceal the other. We are unable to temporalize our sensations of phenomena. In reality there are no quiescent sensations. Locke's basic dogma of modern psychology is therefore invalid. Sensations are not simple.

The concept of the fusion of sensations has played an important rôle since Herbart. The sense-impressions which modern psychology regards as something simple, are nothing but blends, fusions. Psychologists are still wavering in taking this last step, as it entails a serious refutation of sensualistic psychology. They persist in the idea that the temporal process of sensations must be ignored, if we wish to think them. A concrete sensation possesses by nature a temporal duration of some sort. No sensation is possible whose temporal duration is zero. If we deny that the essence of sensation is a temporal process, the concept is meaningless.

As a rule we are not accustomed to think of the minute temporal phases of what seems to us an "instantaneous" sensation. This is due to the fact that our concept of time is much less developed than our concept of space. There is a difference between the empirical "present" and the mathematical "present." By an empirical "present" we understand a short temporal interval which serves to span the immediate past and future. The mathematical "present" consists of a durationless limit between the past and future. Our sense-impressions are never restricted to a mathematical "present." Just as we are ignorant of what happens in the smallest surfaces and organisms without the aid of the microscope, we are similarly ignorant of what occurs within the minutest intervals of a sensation. As the world within the thousandth of a millimeter, and of a micron, is unknown to us, in like manner is the world within the micro-second a secret for us. Biology studies the structure of organisms within a micron, and physics seeks insight into the thou-



sandth and millionth of a second in inorganic nature. A science that had no such explicit aim would have nothing new to say.

The wonderful achievements of modern science depend upon the fact that our sensations consist of numberless temporal phases. Nature in its minute processes is inaccessible to our immediate perception. This is the reason why minds entertained erroneous concepts in regard to the fall of heavy bodies. Science had to wait for a Galileo to open up the solution of this problem.

Therefore, sense-impressions are not something familiar, obvious, and merely given as Locke and Kant held. In a sense we are familiar with our sensations. They are given; but how given? Given as any riddle is given. Their minute temporal phases are unknown to us, and arithmetically speaking, every sensation is a summation. Had science listened to sensualistic epistemology, it never would have succeeded in the penetration of the secrets of nature; for mere sense-impressions do not yield knowledge. Sensualistic epistemology leads to a world-view in which everything is given by the senses, which contains nothing unknown. If there is nothing unknown in what we sense, science would be impossible; for its major objective is to make known the unknown in our sense-impressions.

Sensualistic epistemology aimed to serve the progress of science and knowledge. It reduced all knowledge to experience, and all experience to sensation. In positing sensation as the primitive element of knowledge, it constructed its world with the known instead of extending our knowledge of the unknown. A world-view constructed on the sole basis of sensation turns out to be a world devoid of any problems. A philosophy based upon a sensualistic epistemology has always a ready answer for everything. It leaves no room for further problems. The human mind desires an unknown in order to investigate, to create knowledge. Without the unknown neither knowledge, philosophy, nor science is possible. Impressionistic epistemology issued into two extremes: (1) the blessedness of being free from problems, (2) the despair that we can ever know. These two extremes came historically to expression in Berkeley and Hume. The former elevates sensualistic epistemology into a theory of blessedness; the latter, more than any modern thinker with the probable exception of Santayana, denies that we have the stuff in us to create knowledge.

The fact that sense-impressions are by nature anything but simple and obvious leads to a new conception of perception and consciousness. Our perceptions can not keep step with the flux of our sensations. They do not correspond with the flux of sensations; for if they did, nothing of the minutest rhythms of sensation could ever remain hidden from us. This shows distinctly that our per-



ceptions are limited. A second seems short to us. But a second is neither short nor long in and for itself. It is short for us because we can not execute as many perceptual acts during its duration as we may wish. Thus the length of time depends upon the peculiar nature of human consciousness. In contradistinction to sensation perceptual acts have a discontinuous, intermittent character. A sensory process is continuous, while acts of perception (of consciousness) come by "drops," in jerks, from interval to interval. The constancy of perception is a grand illusion which biologically and practically we can not but help entertain. Perceptual, volitional, and intellectual acts of consciousness are articulated, and possess a living form. Language above all reflects the nature of perception and of acts of consciousness very clearly. Sense-impressions are processes that are continuous and inarticulate. The frequency and oscillations of perceptual acts can be experimentally determined. The same may be done some day for the higher acts of consciousness.

For the sake of clarity let us assume that a sensation endures about one-tenth of a second before it is perceived by consciousness. The question then is: Does an act of consciousness or of perception occupy time? From what we stated above, we will have to infer that a perceptual or any other act of consciousness does not occupy a measurable time, otherwise it would have to be as fluent as sensations are. But granting that an act of consciousness endures one-tenth of a second, the inference would be that it is active for us in any of the minutest time intervals. Would consciousness in any of its forms be capable of this, we would know what we do not know now. Perceptual acts and acts of consciousness in general are instantaneous, having a "punctual" form. They are not sensory; but are different from the continuous organic processes of sense-impressions. It is only as we come to view perceptual acts and the other acts of consciousness as discontinuous, intermittent, instantaneous, that we can differentiate acts of consciousness from biological and physiological processes. There is, then, a radical distinction between an act and a process.

If acts of consciousness are discontinuous how can they have any relations to each other? What can a consciousness of consciousness be? To symbolize it we may speak of  $n$ 'th powers, degrees or levels of consciousness. We all would admit that we are capable of reflecting upon our thoughts, and that we possess in some measure a knowledge of our knowledge.

If we grant the validity of the discontinuous character of perception and consciousness, we can equally grant that consciousness consists of instantaneous, "punctual" points. That is, no two acts of consciousness occur simultaneously in the identical mathematical



moment. If consciousness and perception are intermittent there must elapse a certain interval of time between two acts of perception or of consciousness. Biological or physiological processes occupy the time interval between two acts of consciousness. An act of consciousness in and for itself is not conscious of itself; but only a second, later act of consciousness can lend self-consciousness to the preceding, primary act of consciousness. The second act of consciousness in turn possesses no consciousness of itself, unless a third act of consciousness occurs and lends self-consciousness to the second act. This is the principle of the relativity of human consciousness. The principle asserts that no independent act of consciousness can produce its own self-consciousness. It is only the relative relation of one act of consciousness to another act of consciousness which creates self-consciousness. Moreover, it follows from the principle of relativity that the evolution of the human mind depends upon the possibility of various levels or degrees of consciousness. The actual history of the human mind is an exemplification of this fact. Higher levels of consciousness serve the discovery of new truths, the deepening of the relations that pertain to knowledge. Without the possibility of higher levels or degrees of consciousness no advance in the discovery of new truths can be made. The discovery of errors requires by the same token a higher level of consciousness than the one in which they occur.

We also need to make a distinction between an act of consciousness and a level or degree of consciousness. An act of consciousness as such is not self-conscious by itself. Every level or degree of consciousness consists, however, in the relationship one act of consciousness may have or has to another act of consciousness. There must be secondary acts of consciousness to make it possible for primary acts of consciousness to become self-conscious. Moreover, it must be noted that two or more acts of consciousness are not identical, the same. If consciousness is discontinuous in character, its acts will be diverse. If acts of consciousness were simultaneous, consciousness would have no need of duration. It would not discontinuously pass from one act to another act. In that case it would be possible for us to perform as many acts of consciousness as we liked to. We would no longer be human; but superhuman. There is, therefore, no way of escape from the fact that human consciousness is discontinuous, that it comes in "drops," in pulses, in jerks, and that it moves by intermittent steps to ever higher and wider levels.

While Bergson does not account for consciousness, but assumes it as self-evident, Whitehead has the tendency to ignore it, or at least give it a secondary consideration in matters of cosmology.



Consciousness is thus not a problem for these two charming thinkers. Bergson assumes its pervasive existence in the biosphere, of which the inorganic sphere is a derivative. Whitehead, in following Bergson, introduces the biological concept of organism into his cosmology. Both thinkers tend to identify the biological processes with acts of consciousness. Whitehead conceives consciousness as a derivative of biological processes, while Bergson conceives biological and physico-chemical processes to be derivative of a general cosmic consciousness. I agree with both Bergson and Whitehead when they contend that self-consciousness is discontinuous and intermittent, but deviate from the former by maintaining that the careless identification of consciousness with biological processes is responsible for the grand confusion of concepts in modern biology and psychology; from the latter, that human consciousness is not a belated excrescence of biological and physical antecedents. I am not concerned about the origination of consciousness; but I make the claim that human consciousness has a status of independence which needs to be freshly stated and stressed in present-day philosophy. I do not deny that consciousness has relations to either the biological or physico-chemical realm; but it seems to me that the ready identification of consciousness with processes of either realm, has tended to obscure its patent independence.

HERMAN HAUSHEER.

UNIVERSITY OF WASHINGTON.

## ON THE RELATION OF APPEARANCES TO REAL THINGS

TOWARDS the end of the last century, idealism seemed to have well-nigh persuaded the philosophic world to accept it as the solution of the epistemological puzzle. But with the new century, realism has again come to the fore. Not that the logic of the idealistic position has been shaken—it still occupies what is logically the strongest position; its deficiencies have been shown up, but so have those of opposing epistemologies—it is rather the development of modern science with its elaborate account of the physical and biological world which has forced men to believe in the existence of an external world, in spite of logic. As Professor Strong says, "These sceptical and phenomenalist philosophies (idealism and neo-realism) are not appropriate to the age "which has witnessed the rise of the theory of evolution and of physiological psychology."<sup>1</sup> In this situation, when science is becoming better and better able to deal with external nature while epistemology is unable to prove the existence of that very external world, critical realism has come for-

<sup>1</sup> *Mind*, April, 1928, Vol. 37, p. 182.



ward with its faith-philosophy to get us out of our difficulty—"animal faith" is to lift us out of agnosticism and scepticism, and assure us that in vertical perception we can directly intuit real things.

Thus, when logic is unable to give us the desired result—the external world known to science logic is abandoned for faith, and we are advised to trust to animal faith. But faith is no more trustworthy because it is "animal," i.e., natural and general, than if it were not so. It was formerly likewise natural and general to believe that the sun moves and the earth is flat. If we are to rely upon faith, it ought to be a reasonable faith—one which at least agrees with the best results of science. So it is a fair question to ask whether the animal faith of the critical realist attains a result which accords with the findings of science.

Let us first ask modern science as to what it finds to be the nature of this external world. It may be true that "psychology is the critical realist's strong point,"<sup>2</sup> but he sometimes seems rather weak in physics. Let us neglect the speculations of relativity theories and ask what are the sober views of orthodox physics as to the nature of an external object, say a table. We find that, according to physics, it has no color; its molecules and their constituent parts are merely arranged in a certain configuration which permits them to reflect ether disturbances of certain wave-lengths. Its apparent smoothness is likewise an illusion due to the statistical result of myriads of rapidly moving molecules whose minuteness prevents our perceiving them. Its hardness is a sensation due to the strong (presumably electrical) forces between its atoms which resist their separation. Its unity and apparently definite boundary lines are an illusion too, for we are told that there is a constant interchange of electrons going on between the table and the surrounding air so that there is no unity nor distinct boundary line to the object. Its shape is perhaps the greatest puzzle of all—science deals with it as rectangular, and yet it is hardly possible to perceive it as rectangular (the critical realist excludes apperception<sup>3</sup>); it is usually rhomboidal or even a trapezium; its angles are only perceived as rectangles in special situations, and then never all four at the same time. Most important of all, physical science tells us that it is composed of extremely minute particles, each with a definite electrical charge (although electricity can not be directly perceived), which continually move in extremely complex orbits, although the object seems to be perfectly stationary.

Now let us see what the critical realist has to say of the nature of the external object. Professor Strong says that "our principle

<sup>2</sup> *Ibid.*, p. 171.

<sup>3</sup> *Cf. ibid.*, p. 174.



should be to accept the deliverances of experience (both perceptive and introspective) as to the nature of reality except when they contradict one another."<sup>4</sup> Accordingly, of the thousand and one shapes which the table takes in experience, we pick out one, why, it is not said, that of rectangularity, as veridical, although it is rarely or never perceived. But let us pass by this inexplicable choice; it is doubtless one of the peculiarities of animal faith. Animal faith assures us that we can *intuit real things*: "perception . . . reveals . . . things existent and things non-existent."<sup>5</sup> Then what does perception say without contradiction of the table—precisely that it has color, it is smooth, it is hard, and it is a unit with definite and sharp boundaries! Animal faith thus contradicts science, for the perceived object, even when its contradictions are removed, is not the scientific object. Either animal faith or modern science has deceived us! Is animal faith as vain as the natural faith that the earth is flat? Of those myriads of rapidly moving electrons, of the electrical forces binding the particles together, of the incessant reflection of ether-waves, perception tells us nothing. And yet science is not in the habit of making assertions without good reason. Professor Milliken assures us that the existence of the electron is as certain as the revolution of the earth around the sun!

Critical realism does not then enable us to reconcile modern science with epistemology. Nor are other epistemological theories in any better situation. Neo-realism, with its doctrine that "appearance is the stuff of which reality is composed,"<sup>6</sup> and idealism, with its purely mental world, alike produce objects which are different from those which science asserts. What is needed, if realism is to be persuasive, is some sort of epistemology which will enable us to assert the same sort of realities as science discovers.

But no epistemological theory which relies upon intuition or perception is adequate to do that, for we do not intuit such objects as those with which science deals. On the other hand, could it be possible to infer such scientific objects from our perceptions? Such would seem a plausible course, but the logicians tell us that "such an inference is not defensible logically: for, in order to infer a real thing, we must possess at least a conception of it; but all conceptions have their origin in perceptions: if, then, perception reveals only appearances, we can have no valid conception of anything else."<sup>7</sup> We then come back to Berkeley's argument: the existence of a thing can only be proved by its perception; since external realities can not be perceived, they can not be logically asserted to exist. Thus we find the realist using the idealist's argument to support his position.

<sup>4</sup> *Ibid.*, p. 179.

<sup>5</sup> *Ibid.*, p. 177.

<sup>6</sup> *Ibid.*, p. 173.

<sup>7</sup> *Ibid.*, p. 173.



The real crux of the argument lies in Berkeley's major premise: is it true that the *esse* of a thing can *only* be established by its *percipi*? Might it not be possible that a thing's *esse* could be established by *inference* from its *percipi*? If so, it might be possible to avoid the argument of both the idealists and our present realists, who alike assume the truth of Berkeley's major premise, and we should be able to establish a new type of realism which harmonizes with modern science and yet avoids any ungrounded faith. The fact that conceptions are *derived* from perceptions would be no impedient if we could show that these conceptions, irrespective of their source, are *validly* used. But unfortunately there exists today no logical method, which has received acceptance by philosophers, which can enable us to infer reality from experience. Science tells us a great deal about its objects, and compels others to accept its conclusions, but yet, according to all established logical theories, we ought not to be able to say anything about reality apart from perception!

The epistemological problem thus resolves itself, upon analysis, into a logical problem. What is needed is primarily a new logical method. Yet modern science is certainly not illogical. It insists upon rigorous proof for all its conclusions—such rigorous proof that the scientific world is compelled to accept them. Can it be possible that modern science is already in possession of the required logical method, which it is using successfully in its discoveries, although that method has not been recognized by philosophers? The unsolved problem of induction! Does the solution of the epistemological puzzle lie in the solution of the problem of induction? If we had a logical method whereby from perceived experience we could induce necessary premises with certainty, we should have an assured solution of the problem of epistemology, for we could determine the nature of reality from our perceptions. In this direction lies the solution of the realist's problem! However, logic is too technical to be of interest; we should be led too far afield. We had better drop the matter here. Realists need to study inductive logic!

MARSHALL COLLEGE.

HOMER H. DUBS.

## BOOK REVIEWS

*Auguste Comte et le Catholicisme.* CHARLES DE ROUVRE. Paris: Editions Rieder. 1928. 272 pp.

The lecture is in one of those elementary survey courses in the history of philosophy; and by dint of prodigious labor and a shameful telescoping of material you have arrived at the nineteenth century and Auguste Comte. The hour is drawing to a close, and you



have spent too much time on the Hierarchy of the Sciences, so that your concluding paragraph falls a victim to some such formula as this: "During the last twelve years of his life, Comte, under the influence of an unfortunate love-affair, turned from his scientific system to devise a new Religion of Humanity, which has been characterized as 'Roman Catholicism with the Christianity left out.' " It is this last catchword, by no means the worst of the many that tempt all lecturers-to-sophomores, which will stick, and which will come back to you on dozens of examination books, utterly devoid, alas, of the rich content with which it is filled in the writings of M. Charles de Rouvre.<sup>1</sup>

For M. de Rouvre, a novelist and poet, whose great-grandmother was also the mother of the unhappy Clotilde, has spared no exertion to make himself an authority on the romantic and religious aspects of the powerful and troubled personality that was Auguste Comte's. There are revelations in his pages which are of consuming interest not only to students of Positivism and Catholicism, but also to those who are serious in their pursuit of psychoanalysis, the psychology of religion, of genius, and of sex. For no philosopher in love has ever approached the candor and completeness of detail displayed by Comte in rehearsing the nuances of his passion; and few biographers have been more profuse in their embroideries of sentimental commentary than M. de Rouvre.

*Auguste Comte et le Catholicisme* is virtually an amplification of the last chapter of *l'Amoureuse Histoire*, but since the larger volume escaped wide attention by appearing in the dark days of 1917, the partial duplication is not serious. The two books deal almost exclusively with the period of the second *Politique positive*, beginning in 1845 and continuing until Comte's death in 1857. The more recent of the two points to Mme. Clotilde de Vaux as the essential link between Comte, the Positivist philosopher, and Comte, the founder of *le Catholicisme sans Dieu*, or the Religion of Humanity. It treats neither of the philosopher nor of the savant, but merely of the apostle, of the man who thought he had discovered the supremacy of feeling over intellect, "*et qui, par là, renverse tout soudain l'ordre premier de sa philosophie.*"

Now it is well known that there were, even during Comte's lifetime, two opposing schools of thought concerning this "sudden reversal" and the influence of Clotilde in bringing it about. On the one hand there have been those to whom the change was neither a reversal nor sudden, *les positivistes intégraux*, the small band of the faithful who, like Comte himself, have regarded Sainte Clotilde as

<sup>1</sup> Cf. also *l'Amoureuse Histoire d'Auguste Comte et de Clotilde de Vaux*, Paris, 1917, Calmann-Lévy.



an integrating influence upon the philosophical and politico-religious phases of his system. On the other hand have stood the more numerous *Occidentaux*, headed by Littré and John Stuart Mill, who broke with the Arch Priest of the Religion of Humanity over his Clotildean rites and dogmas, which they regarded as *un monument de senilité*, a pathetic and even a pathological aberration from original Positivism. More recent commentators have pointed out the excesses of both parties, until now it is pretty well agreed that the Littré-ists erred in failing to see that Comte was from the beginning a traditionalist authoritarian at heart, who had promised a religion for social reconstruction for which scientific Positivism was merely to provide the foundation; while the "Integrals" also erred in failing to penetrate the absurd rationalizations by which Comte sought actually to connect the new religion with its pretended basis. What has not been settled satisfactorily is the exact nature and extent of the Clotildean influence.

Professor Georges Dumas, who has made a careful study of Comte the messiah,<sup>2</sup> tends to minimize both the ability and the influence of Mme. de Vaux, demolishing completely the Littré-ist legend that she provoked a sudden recurrence of Comte's former mental troubles, and so threw the development of his system into insane confusion. Whatever the peculiar psychology of her influence, Dumas demonstrates that it was neither morbid nor disruptive, but a matter of the continuous development of Comte's undoubtedly psychopathic temperament. As for her alleged transformation of Positivism, Dumas cites ample proof that in the eyes both of Saint-Simon and of Comte himself, "it had always tended by virtue of its own logic toward the organization of human well-being; and it was not the influence of a woman which made of it a humanitarian philosophy."<sup>3</sup>

M. de Rouvre agrees most heartily with Dumas' denunciation of Littré for his failure to comprehend the real, albeit illogical, connection between Comte's religious conclusions and his scientific premises. But the author's main anxiety seems to be to exalt the influence, whether baleful or beneficent, of his relative, Mme. de Vaux, and especially to portray it as absolutely essential to Comte's development of the second part of his system. M. de Rouvre himself has hardly more admiration for religious Positivism than Littré. But without Clotilde, at any rate, he claims that there would have been no second period (either integral or aberrant). In order for Comte to move swiftly from *la dogmatique du philosophe à la dogmatique de l'apôtre*, he tells us, one thing was necessary, "*il fallait qu'une femme passât.*"

<sup>2</sup> Dumas, Georges: *Psychologie de deux messies positivistes*, Paris, 1905.

<sup>3</sup> *Ibid.*, p. 206.



Just after the completion, by means of six years of a rigorous *hygiène cérébrale* which excluded all current publications save scientific bulletins, of the monumental and exhausting *Philosophie positive*, when Comte, two years separated from his inconstant wife, "*était mûr pour la grande passion*," the woman appeared. She was Mme. Clotilde de Vaux, seventeen years his junior, blonde, blue-eyed, with the high coloring of the phthisical, gifted with a slender literary talent, and the victim of an unhappy but unbreakable marriage with a rogue who had absconded some four years before. Suddenly disgraced and reduced to almost complete dependence upon an avaricious and tyrannical family, Clotilde was struggling, with the courage of desperation, to remold the shattered fragments of her existence into a modest career as a *femme de lettres*.

Her first impressions of the homely, watery-eyed philosopher of nearly fifty were anything but flattering. But gradually Comte won his way into the affections of the Marie household, until on April 30, 1845, he dared to begin the series of ninety-five letters to Clotilde (answered by eighty-six replies) which later entered the canon of the *Volume sacré*. Throughout the correspondence, which M. de Rouvre quotes almost in its entirety, Clotilde, who did not love Comte, and who was not herself beloved by the editor Marrast, whom she may have loved, seems to be chiefly concerned with preserving the freedom which she hoped to win by her literary labors from the menace of entanglement. Flattered by the attentions of the renowned philosopher, and driven by loneliness and penury to accept his ready assistance, she found herself pitying him in his sociologized infatuation, but could not bring herself to the point of final capitulation. As for Comte, even at the beginning there is something terrifying about the calculating precision of the "little bureaucrat in love." Every letter, meticulously numbered and recopied in advance, seems a part of an ingenious plan of campaign that will not be denied the attainment of its objective. In spite of the romantic interludes which stir the pulse of M. de Rouvre, and which lead him to rank some of Clotilde's letters above those of Mme. de Sévigné (or of any other woman, for that matter). Comte's grim and elaborate siege of the tortured heart of his dying *immaculée inspiratrice* presents anything but a pretty picture. The philosopher's own words (no less outspoken than those of Pepys to his diary) leave us no room for doubt that for four long months, until Clotilde's final refusal and his own renunciation, he used every resource of his formidable armory of persuasion: prestige, pity, philosophy, praise, and even the peril of recurrent insanity, to induce her to become his mistress.

But the philosopher *éperdument amoureux* (and this is what



gives the matter its significance) was still the philosopher actively engaged in constructing the promised second part of Positivism. Or, to phrase the situation differently, Comte by 1845 had become a system; and it was the system, as Dumas suggests, which fell in love. Even in moments of supreme mystical exaltation, both before and after the enforced sublimation of his desire, Comte, in true messianic fashion, was perpetually conscious of the importance of each minutest act of his for the future well-being of society through his new religion. Even his most ecstatic letters are heavy with the style of the proud, systematic, humorless sociolatrast. When first he encountered Clotilde, his three dominant characteristics were already (1) his inordinate but partly warranted pride in his intellectual accomplishments, (2) his zeal for the systematization of everything with which he came in contact, and (3) his humanitarian longings for a rigidly paternalistic type of social reconstruction, largely derived from his former master, Saint-Simon. Now his passion for Clotilde, profound and intense as it unquestionably was, did not prevail against a single one of these traits. On the contrary, it succumbed to and blended with the overpowering influence of each of them. It is this fact which leads Professor Dumas to declare that Comte's love for Clotilde was merely auxiliary to his messianic mission.

At the same time it must be remembered that the "system which fell in love" was an incomplete one, and the real issue lies in the assessment of Clotilde's undoubted influence upon its completion. Hypotheses about the past are seldom fruitful, but it is interesting, nevertheless, to speculate concerning the fate of Positivism in case Clotilde's nose, like Cleopatra's, had varied by the proverbial fraction of an inch. First of all, without Clotilde, would there have been any second *Politique positive* whatever, or would Comte have ended his work with the *Cours de philosophie positive*? Secondly, if there had been such a *Politique* without Clotilde, would it have been any more, or any less, Roman Catholic in character than the actual *Politique*? Finally, granting that the present *Politique* is not firmly grounded, as it claims to be, on the *Philosophie*, could any such work have been written by Comte, in the absence of Clotilde, that would have been a logical outcome of his earlier system? It will be seen at once that these questions probe deeply into the religious potentialities of scientific Positivism. Summary answers, sadly denuded of supporting evidence, alone are possible here.

In spite of M. de Rouvre, it is safe to assert that there would have been a second *Politique*, Clotilde or no Clotilde. It is universally conceded that the grandiose plan of Comte's system called for the construction of a social philosophy to be based upon the *nouveau*



*pouvoir spirituel* of which his master, Saint-Simon, had dreamed, and toward the realization of which his own *Cours* had contributed so much. The crown of his famous hierarchy of the sciences was that *sociologie* which would unerringly reveal the almost Marxian *fatalité* behind political events, and so at last make possible a thoroughly dogmatic, because completely scientific, governmental order. It is M. de Rouvre's thesis, however, that Comte found himself unable, before his tender awakening on the evening of May 16, 1845, to proceed in the direction indicated. He fails, incidentally, to give the credit for marking out Comte's path to Saint-Simon, whose genius had perceived that the solution of the social problem rested upon the discovery of a stable religious motivating-power, which in turn must rest upon the firm foundations of all the positive sciences. What Comte lacked, in the eyes of M. de Rouvre, was just this propulsive faith which would enable him to apply his magnificent but coldly intellectual abilities in the field of concrete social and religious life. An atheist at fourteen, he believed in nothing that was not verifiable by means of his five senses; until suddenly, in the nick of time, his infatuation for Clotilde supplied the necessary motive force to launch him on his new career as the apostle of a mystical anti-Positivist religion, which he sought vainly to reconcile with his earlier scientific teachings.

To imagine that, without Clotilde, Comte would have left his system unfinished and thus without practical utility for social reconstruction, is to underestimate both the scope of his original plan and the firmness of his messianic determination. It is true that Gustave d'Eichthal in 1830 found Comte destitute of Saint-Simon's warm social sympathies—a scientific thinking-machine immune to all manifestations of sentiment; but that was at the time of Comte's first lectures, when he was preoccupied exclusively with mathematics. Had there been no Clotilde, there is every reason to think that the second *Politique* would have been written just the same. But would it have been different, and in what respects?

As far as its Catholicism is in question, there is no reason to imagine that there would have been any fundamental differences. Comte's admiration for the *intransigent* type of world-dominion of Pope Hildebrand dates from 1822, when he was an *élève de Saint-Simon*, who, thanks to Oelsner and de Bonald, had taught him to admire the organic character of mediaeval Christendom. Both men hoped to establish a new spiritual order which should duplicate and replace the monopoly, the infallibility, and the discipline of the Roman Church, omitting all supernatural encumbrances. Saint-Simon sketched such a scientific Church with its priesthood of savants, "the Council of Newton," in his first work, the *Lettres*



*d'un habitant de Genève*, which appeared in 1803. It was Comte, however, who brought into being the Religion of Humanity, with its priests, its saints, its calendar, its nine sacraments, its educational monopoly, and its Index of Books, almost all carefully modelled, as M. de Rouvre shows in great detail, upon Catholic precedents. But what had Clotilde to do with all these artifices and extravagances? With their content, a great deal; but with the underlying substance of Comte's authoritarianism and ritualism, almost nothing at all. She did provide the symbol upon which most of Comte's ready-made ritual was centered; and his thwarted passion did drive him into all sorts of ridiculous and pathetic *niaiseries* in matters of detail. But if you will consult the first American edition of the Positivist Calendar, edited by the "integral" Henry Edger in 1856, you will find no reference whatever to Clotilde by name, and only one passing allusion, in over a hundred pages of exposition of the new religion, to "an eminent personal affection, the object of which, now for ten years deceased, gave rise to a truly admirable worship on the part of the Founder of our Faith." The book is full of atheistic Catholicism, but not of Clotilde. It may even be argued upon M. de Rouvre's own premises that, instead of inciting a reluctant and incorruptibly scientific Comte to "Catholic" practices, Clotilde's influence actually opposed them. For the author makes much of the striking paradox presented by her gay, pleasure-loving, and rebellious personality and the harsh, austere, and tyrannical cult which Comte promulgated in her honor. How explain such an astonishing contradiction, except by admitting that other tendencies in Comte,—his rigorism, his admiration for the church of his hero, St. Paul the anti-feminist, and his desire to be imitated by everybody, overwhelmed and transformed into the *Vierge-Mère* of the new religion, the emancipated and most uncatholic young woman who "neither remained a virgin nor became a mother"?

As for the remaining question, whether any religion could have been devised by Comte, with or without Clotilde, or by anyone else, which would have rested firmly upon the *Philosophie positive*, opinions will differ widely, according to one's views concerning the importance of the supernatural for religion. The total effect of M. de Rouvre's able pleas for Mme. de Vaux upon at least one reader has been to heighten that reader's sympathy for her, but not to raise his estimates of the extent or of the beneficence of her influence in matters philosophical. One's most lasting impression from the whole sad story is not of unhappy Clotilde, but of another figure, the unlovely, fanatical, and yet prodigious one of Auguste Comte.

HAROLD A. LARRABEE.

UNION COLLEGE.



*Ethics.* F. C. SHARP. Century Philosophy Series. New York: The Century Company. 1928. Pp. 566.

If the proof of the textbook is interest from the student, there is little hazard in the claim that Professor Sharp has written a good text for ethical instruction. Illustrations seem to grow indigenously out of every page, and casuistry as moral methodology flowers into extended use in several chapters. It is very rare to discover a book devoted to principle rather than to practice which at the same time carries with it so unmistakable a tang of concreteness. This atmosphere, so far as I can see, comes almost wholly from the frequency of illustrations from life and literature and the resort to casuistry to find out what common moral opinion actually is on disputed points. Consequently the portions of the text devoted to what might be called the sociology of morality contrast favorably with Sidgwick's well-known attempt to catch (largely out of his own head after unsystematic observation) the opinions of common sense. Unless one is prepared to renounce the method or to revise the conclusions reached by it, one must accept Professor Sharp's statements of what common men believe as being more than mere opinions. This is a commendable achievement.

The use of casuistry, largely upon students as subjects, leads the author to the discovery that "the desire to harm" operates along with altruism and egoism as a normal human motive (Ch. V). It leads him also to minimize the actual influence of authority upon both adults and children, and in general to renounce the ethical relevancy of what he calls "the social pressure theory" of conscience (Ch. XII). On the other hand he appears to have made no use of the method where theoretically some empirical approach would seem indispensable—in making up his list of "the best things in life" (Ch. XVIII).

Without criticizing the list of goods submitted by Professor Sharp (health, craftsmanship, knowledge, beauty, friendship, self-realization, adventure—soon unhappily to be unavailable, as he thinks,—and religion, which he takes to be "the supreme realization of all value"), it must be noted with some astonishment in a book meant for modern students that sexual satisfaction is omitted from the great goods. Is it possible that an empirical investigation would fail to reveal this value high up in the list of intrinsic goods? Hardly for the saints. Are the sinners better than they? If such an omission were to lead one to seek the criteria used in the selection of basic goods, he would find in the explicit discussion given the question (p. 390) that the fundamental reliance is upon "self-evidence"—a principle that, of course, is never available when one needs it most, i.e., when there is disagreement. Professor Sharp's



discussion of the family and his chapter on "Æsthetic Judgments upon Conduct and the Intrinsic Value of Character" make it not improbable that this omission, as well, for instance, as his high rating of religion, represent a personal equation that should have been acknowledged as such or better still corrected by some such methods as he has used to good advantage in his discussion of Right.

This reverse differential treatment of sex and of religion led me to observe and now causes me to remark what I think a larger defect in the work. "Right" and "Good" are taken to be the fundamental moral categories; and as such they might be supposed to deserve equal consideration. But of 489 pages given to the main body of the text (there are more than seventy pages of excellent notes, bibliographies, and index), 335 of them are given to "Book I—The Right," only 132 to "Book II—The Good." This discrepancy is all the more remarkable since in Note I (p. 493) "right" is subordinated, logically at least, to "good"—"Moral approbation, which gives rise to 'right' and 'wrong,' is, as will appear, a special form of approbation in the broader sense, and this broader approbation is the source of the adjective *good*." Moreover, it is admitted (p. 357) that "The Need of reflection as to what are the best things of life is perhaps even more imperative than reflection about what actions are right or wrong." Can it be that the real reason is contained in the next sentences? "With regard to the latter we can ordinarily avail ourselves of an ancient, comprehensive, and widely recognized tradition. This is indeed far from complete; and at many points it is vague, confused, and self-contradictory. But it is, sound and clear in its utterances as far as most of the fundamentals are concerned" (358).

There is genuine need for a method of discovering "intrinsic goods" that will be more satisfactory (*to the dissenter*) than the method either of authority or of self-evidence. The future of tolerance as an ideal and of coöperation as a practice seems to rest upon it; and these are great goods. This book invites a criticism against itself for failing to offer what it seems to promise—an empirical approach to the problem of goods as well as to the problems of right. I wish that Professor Sharp had included in an appendix (or better still had written in Book II the counterpart of) an article by C. Delisle Burns on "Progressive Morality" (*International Journal of Ethics*, XXXVII: 225-238), in which the claim of the pioneer is given a major place in morality and in ethical theory. May it not indeed be that the obsolescence of adventure, which Professor Sharp bemoans, can be stayed by giving more attention to the claim of pioneering in the name of morality? Not all virtue is included in the Virtues, as, of course, the author realizes; and



there are today more students of ethics than the professor of ethics is likely to recognize who bear stoically the brunt of ordering their lives along their own lines, for the sake of goods that are far from "self-evident" (to the professor of ethics).

So much for disagreements. This is a much better text than this line of adverse criticism reveals. Such faults as I have indicated (if they be faults) can be corrected by any teacher, with all the fun of doing so as a sheer gratuity. The slightly modified form of utilitarianism espoused by the author, the clear exposition and criticism of standards that fall short of universal welfare, the spirited defense of determinism, the prominence given such virtues as health, the empirical approach, at least in dealing with rightness—these are all to the good in ethics as well as in teaching ethics. Moreover, I think the author wise in giving himself wholeheartedly to the matter of theory—leaving comparative morality (save for one chapter minimizing the difference in principle between primitive and civilized peoples) to better informed sociologists and leaving widescale applications to men of affairs. He seems to me, too, to use well the history of ethics in clarifying moral issues. Since I can not here undertake to comment upon the ethical doctrines espoused in detail (that were to cover the whole of ethical theory in a review), I must again signify pleasure at seeing so reasonable and readable an account of the facts of moral theory put into the hands of as many students as will in all probability hereafter profit from a study of this book.

T. V. SMITH.

UNIVERSITY OF CHICAGO.

*Le Jugement Réfléchissant dans la Philosophie Critique de Kant.*  
MICHEL SOURIAU. Paris: Félix Alcan. 1926. Pp. vii + 139.

In this work the view is expressed that Kant's *Critique of Judgment* is more than an "architectonic complement" (p. v) to the rest of his system, it is thought to lead to the true lines of his *Critical Philosophy*. But it can not be studied without considering the growth of his thought in the earlier Critiques. His system is therefore studied from its beginning in the first Critique through its development in the *Critique of Judgment*. The study centres in the reflective judgment which is regarded as the key to his whole system of thought.

The outcome of the work is that Kant's reflective judgment holds the central place in the *Critical Philosophy*; it gives systematic unity on the basis of the thinking subject to all phases of his thought. Through imagination it raises itself above the understanding to the realm of esthetic ideas and approaches practical reason, and so



maintains the relation between the theoretical philosophy on the one hand and the practical philosophy on the other. The reflective judgment as teleological is naturally involved in practical reason. But it may seem as if the understanding with its categories which determine phenomena were not identical with the reflective judgment; the determining judgment with its dogmatism of the *a priori* sciences tends to stand out in opposition to the criticism of thought created in the reflective judgment. But the *Critical Philosophy* is really a philosophy of the faculty of judgment, of which the reflective judgment is the creator and of which the determining judgment explains the dogmatism of the understanding. Judgment at bottom is creative, but may be used for determination; in determination the reflective function is involved in regulative principles and in the teleological factor in them. For teleology dominates all science and the reflective judgment is therefore at the core of knowledge. Should it be asked why the reflective judgment with its teleology has a higher place than the understanding with its mechanism, the answer would be found in the primacy of practical reason over theoretical reason. Judgment is the highest and most universal function, and it is essentially reflective, teleological, creative, and free. The faculty of knowledge, the feeling of pleasure and pain, and the faculty of desire,—understanding, judgment, and reason,—all fall within judgment, the reflective judgment. And on the basis of the reflective judgment there results a teleological conception of the world.

In working toward this result the faculties of judgment and reason and the transcendental doctrine of judgment in the *Critique of Pure Reason* are studied, especially in connection with the schematism and principles. Incidentally it is pointed out that in the discovery of the categories the faculty of judgment runs parallel to the understanding, and that the only difference is the difference between active function and content. The history of Kant's composition of the *Critique of Judgment* and his work in esthetics and teleology prior to the publication of the *Critique of Judgment* are taken up in considerable detail, and then the development of the reflective judgment is worked out as it appears in the *Critique of Judgment*. The relation of the esthetic to the teleological judgment and the importance of the feeling of the sublime are made clear, as well as the growing emphasis in Kant's thought on the teleological view as ultimate.

This work stands for a careful study of Kant's own work, although adequate reference is made to the works on Kant by others. And in all the phases of Kant's thought which are brought out there is always a definite end in view—the importance and central place in Kant's system of the reflective judgment. One is made to feel that



the resulting teleological conception of the world springs from Kant and is not an attempt to read some later philosophy into his thought. It is a real contribution to research in Kant thus to study in his *Critical Philosophy* a faculty of the mind which plays such an important part in so many of its problems, and to give unity to a conception which runs through its whole structure.

Much of value is also added to the research in Kant's psychology, particularly in the problem of the faculties of the mind. The concept of the faculty of judgment was left somewhat indefinite by Kant; here the loose ends are brought together. In showing how he gave unity to the mind through the reflective judgment a genuine philosophical service is rendered.

To assume that Kant did not realize the full meaning of his thought until he came to write the third Critique, that the true lines of the *Critical Philosophy* are only to be found in the *Critique of Judgment*, is to make a rather radical assumption, even if based on careful examination of his work. To further assume that the reflective judgment is the key to his whole philosophical system is even more radical. If the *Critical Philosophy* is to be regarded as an attempt to reconcile and do justice to various points of view, then this conception of the reflective judgment with its implied teleology must represent either one such point of view or the attempt at reconciliation of all those points of view. If it can be shown that this conception represents only one such point of view, this research is of value in bringing out that point of view. But if, as is clearly intended by the author, the conception represents the reconciliation, the research deserves very careful consideration, because, should its contention be correct, it is a work which may effect in a marked way our fundamental views with regard to the *Critical Philosophy*.

Certainly Souriau's volume should have a place in every library of Kantian research.

PHILLIPS MASON.

BOWDOIN COLLEGE.

*Rifts in the Universe. A Study of the Historic Dichotomies and Modalities of Being.* J. S. MOORE. New Haven: Yale University Press. 1927.

This little book, discussing as it does the profoundest issues of metaphysics—issues raised, as every one knows, by the dichotomies of nature and of mind—would in the opinion of the reviewer have been more valuable if it had been more thoroughgoing. Even as it is, however, the philosopher will do well to peruse it and remind himself of the inevitable antitheses. In Chapter I, "The Dichotomies of Being," familiar pairs are listed: Being-Becoming, Sub-



stance-Attribute, Form-Matter, Space-Time, Actual-Potential, etc. If one forgets the work of Hegel, who carried this process through to the end, he may find a fair degree of completeness here; but we should have liked to see included such pairs as classic and romantic in art, plant and animal in living matter, male and female organisms, positive and negative electricity, law and chance as used in physics. Surely these are not too particular to possess philosophical significance; or if they are, where shall we draw the line?

What we miss in Chapter 2, "Correlations" is a reduction of these pairs to a single principle. It seems obvious that there is such a principle; else how account for the so universal dichotomizing which the universe forces upon us? But the author contents himself with showing how the pairs may be grouped. A table is given on p. 37 listing the chief couples under the general heading of Entities, with the sub-heads Noumena and Phenomena. "Noumena include Spirits and Universals. Spirits include Divine and Human Spirits, or God and Man. Phenomena are Bodies, including Human and Sub-Human Bodies, or Man and Physical Nature. Persons, including Divine and Human Persons, and Things together constitute Individuals, as distinguished from Universals . . ." And so on.

Chapter 3, "Methods of Treating Dichotomies," sets forth his defense of synthesis as the criterion of final truth. Synthesis is carefully distinguished from compromise and from eclecticism; each of these loses something of the truth which synthesis, by its method of complete reconciliation, preserves. We recognize here the good Hegelian doctrine; when, however, we come to particular syntheses, we find them so easily reached, and in some cases so unlike the usual, that we wish for more justification than is given. For instance, critical realism is adopted as the synthesis of idealism and realism (p. 81); theism as the reconciliation of the opposites, God and the world (pp. 58-59). Present-day thinkers also are likely to balk at the too facile reconciliation of mechanism and teleology: "that all phenomena, without exception, are at the same time explicable in terms of causes (i.e., of other phenomena) and interpretable in terms of ends (i.e., of noumena)" (p. 67). What if mechanism leads to a destruction of values, as so often appears to happen? In fact it is the particular syntheses which constitute the whole metaphysical problem, and there seems to be no short path to these. In this connection attention should be called to the author's claim that the dogma of the Trinity (dogma is my term, not his) offers a reconciliation of monotheism and polytheism (p. 59). He gives no reason why a quadruple or even a dual Deity would not perform the same office. So, too, with the dogma that Christ is both God and man; a synthetic attribution no doubt—but is it always sound to proceed



It may not be more correct to describe a man as a mulatto than to find him a white or a negro. There is grave danger of pushing the synthetic method too hard, or applying it too easily; and doubtless in many cases the best way of finding a synthesis is to investigate the facts themselves quite independently.

The second part of the book, on the "Modalities of Being," is comprised in Chapter 4. The distinctions of Being and Non-Being, Reality and Appearance, Reality and Fiction, Actuality and Possibility, Contingency and Necessity, and so on, receive attention, and are clearly enough marked. We notice the author's disagreement with Thalheimer's view that definite position in time and space is essential to existence. Professor Moore would seem to consider fictions as real as bodies, but I do not find the following passage entirely clear: "Our chief defence for retaining the distinctions of terminology which Dr. Thalheimer and others reject is our insistence upon a twofold truth: (1) that Fictions, Relations, Ideals, etc., are real in at least as true a sense as physical things; but (2) that there are vital differences between the kinds of reality exemplified by the above categories of entities. Mental existence is not the same *kind* of existence as physical, fictions are not real in the same *sense* that facts are, relations and ideals have a different *type* of reality from phenomena, and we need a terminology varied enough to allow for these distinctions; and yet in a very true sense each of these has a right to be considered real" (p. 103). Now what is meant by the phrases "*kind* of existence" "*real in the same sense*" and "*type* of reality"? It is not easy to see how the difference of kind, or type, or sense, can enter into existence or reality. Kinds, types, and senses apply to describable characters; but existence is not a character.

Chapter 5, "Conclusion," correlates the chief modalities of being with the dichotomies and gives an outline of the author's metaphysical system: an absolute personal spirit, God, creating a world as object, which is gradually reconciled with Him. This part of the book is extremely condensed, occupying less than three of the not very large pages. There follow two Appendices: "The Meanings of Idealism" and "On the Nature of Matter and of Substance." Recognizing the usefulness of the distinctions between various kinds of idealism, the present reviewer does not find the second Appendix clear enough to summarize—perhaps because Mr. Moore treats of "etherions" or supposed elements of the ether, which seem to be elements of a continuous medium. Are these elements then discrete?

On the whole, we should receive gladly a study like this work as a return to metaphysics; let us congratulate Professor Moore on his choice of subject. If we find fault with the execution, it is chiefly



in the matter of too great brevity, at times even of sketchiness. The generous American spirit, welcoming all who come, is not by mere words of cordial greeting going to make them dwell in harmony. Syntheses are the most difficult of all things to consummate, and the special weakness of the synthetic spirit is indiscriminateness; a weakness against which a painstaking investigation of facts on their own merits is the only safeguard. Let us hope that Mr. Moore will before long give us another work along the same lines as this, with much greater elaboration of the special syntheses.

W. H. SHELDON.

YALE UNIVERSITY.

*The Nature of Deity.* J. E. TURNER. New York: Oxford University Press, American Branch. 1927. Pp. 245.

This volume is the sequel to the author's *Personality and Reality*.<sup>1</sup> In broadest outline it appears to be an attempt to combine an all but absolute theism with emergent evolutionism. With the statement that "the sole intellectual criterion, in knowledge and belief alike, is rational validity" (p. 15), the author proceeds to treat the paradoxes of traditional theism in a loose way with here and there an intimation that his final refuge is in intuitionism (pp. 60, 74, 154, 240). But if this is his refuge the way to it is strewn with statements which a sharper logic would dissect into contradictions, in which the member pointing in the direction of personalism, or whatever else the author wishes to demonstrate, is stressed, while the other member is grudgingly admitted in minor qualifying phrases. In particular, his treatment of questions involving infinities and finities is colored in this way. There is frequent use of a so-called "argument from analogy," in which human mentality and human achievements are magnified to indicate what must be those of Deity. The argument as employed might better be called an argument from projection, or extrapolation. On pages 94 and 95 the argument seems to skid first from structure to organization and then to purpose. The proposed solution of the problem of evil brings forth such statements as that if pain were absent there would be no feeling (p. 99) and that moral evil is the correlate of freedom (p. 104).

GEORGE P. CONGER.

UNIVERSITY OF MINNESOTA.

*The Cambridge Platonists.* FREDERICK J. POWICKE. Cambridge: Harvard University Press. 1926. Pp. x + 219.

The group of thinkers traditionally known as the Cambridge Platonists were primarily not philosophers, but divines imbued with

<sup>1</sup> See the review by D. C. Mackintosh, this JOURNAL, Vol. XXIV (1927), p. 157 ff.



deep religious earnestness and entertaining a somewhat larger confidence in clear thinking than most of their contemporary clergy. It is helpful, accordingly, to approach them with the aid of an author similarly characterized in these respects, and such an author we apparently have in Dr. Powicke, who discusses them as constituting essentially a movement in the development of English theology and as philosophically influential only through the general leaven of their attitude of tolerance and of moral sincerity and through the specific influence of some of them (especially Cudworth) upon Locke.

Though other notable influences of the same sort, such as that of More upon Newton, receive scant attention, the book is scholarly and shows scrupulous research into the relevant literature of the seventeenth century. The first chapter attempts a general characterization of the school, and is followed by individual sketches of Whichcote, Smith, Cudworth, Culverwel, More, and Peter Sterry as each revealing specific phases of the movement. The inclusion of the last named, who was not a philosophical thinker at all, illustrates the approach above referred to.

The book brings out with especial clearness the vigorous influence of the school in the growth of toleration and the extent to which it formulated the principle that one's intellectual opinions are functions of one's moral interest.

E. A. BURTT.

UNIVERSITY OF CHICAGO.

## JOURNALS AND NEW BOOKS

PHILOSOPHICAL REVIEW. Vol. XXXVII, 6. French Philosophy in 1926 and 1927: *Abel Rey*. Contemporary German Philosophy: *Arthur Liebert*. What is an Event?: *A. E. Murphy*. Justice by Technicality: *W. W. Brewton*. The Directive Power: *W. D. Light-hall*.

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REVUE DE PHILOSOPHIE. 28<sup>e</sup> Année, No. 5. L'étude expérimentale



tale de la pensée par la méthode d'introspection systématisée: *E. Peillaube*. Habitudes et habitus: *L. J. Lefèvre*. Erreur et péché: *M. D. Roland-Gosselin*. La théorie psychologique de la Trinité d'après saint Augustin: *A. d'Alès*. A propos d'un nouveau manuel de philosophie: *G. Cazals*.

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ZEITSCHRIFT FÜR PSYCHOLOGIE. Bd. 108, Heft 3 u. 4. Eine Untersuchung über Symmetrie und Asymmetrie bei visuellen Wahrnehmungen: *P. Bahnsen*. Experimentelle Beiträge zur Lehre vom Vibrationssinn: *S. Petzoldt*. Experimentelle Untersuchungen über die Mehrfachhandlung: *M. Schorn*. Zwei Grundtypen von Lebensprozessen: *C. Bühler*. Dingfarbenwahrnehmung und Duplizitätstheorie: *L. Kardos*.

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München: Ernst Reinhardt. 1928. 133 pp.

## NOTES AND NEWS

The Ninth International Congress of Psychology will be held at Yale University, New Haven, Connecticut, September 1-17, 1929.

It is proposed to arrange sessions of the Congress on the basis of the following list of topics, but the list will be extended or modified according to the interest of participants as expressed in their abstracts: theoretical and historical psychology; methodology and technique; experimental psychology; physiological psychology; comparative psychology; abnormal and clinical psychology; medical psychology; psychology of personality; educational psychology; child development; social and racial psychology; psychology of industry and personnel; legal psychology; psychology of religion; psychological aesthetics. The official languages of the Congress will be English, French, German, and Italian.

The Committee believes that formal communications provide only part of the benefit to be derived from a Congress of Psychology. Personal contacts have always been valuable and their cultivation seems to be worth encouragement. It is consequently the present plan of the Program Committee to concentrate the formal communications (limited to twenty minutes) in the several morning sessions, and to reserve the afternoons for numerous less formal reports (limited to eight minutes) and discussions of special topics by small groups of those who are particularly concerned. It is hoped by this means to facilitate the formation of closer and more enduring international contacts between scientists with common problems, and to encourage such scientific correspondence and cooperation as may be both desirable and feasible.

The National Committee is composed as follows: President, J. McKeen Cattell; Vice-President, James R. Angell; Secretary, Edwin G. Boring; Executive Secretary, Walter S. Hunter; John E. Anderson; Madison Bentley; Edward A. Bott; Harvey A. Carr; Raymond Dodge; Knight Dunlap; Samuel W. Fernberger; Herbert S. Langeld; William McDougall; Walter S. Pillsbury; Carl E. Seashore; Lewis M. Terman; Edward L. Thorndike; Howard C. Warren; Margaret F. Washburn; Robert S. Woodworth; Robert M. Yerkes.

The fee for all members of the Congress residing in North America is \$10.00. Members will receive the volume of Proceedings without charge. Communications should be addressed to Walter S. Hunter, Executive Secretary, Clark University, Worcester, Massachusetts.



The American Council of Learned Societies announces that it is able to offer, in each of the three years 1929-1931, a limited number of small grants to individual scholars to assist them in carrying on definite projects of research in the humanistic sciences (philosophy, philology and literature, linguistics, art and archæology, and history).

The grants are designed to facilitate and encourage research by mature scholars who are engaged in constructive projects of research, and who are in actual need of such aid and unable to obtain it from other sources. The grants are available for specific purposes, such as travel, personal and secretarial assistance, the preparation or purchase of equipment, material, etc.

The grants are restricted to scholars who are citizens of the United States or who are permanently domiciled or employed therein. They will not be awarded for the purpose of aiding in the fulfillment of the requirements for any academic degree, and as a rule, preference in their award will be given to scholars who lack access to other funds maintained for similar purposes.

The maximum amount of these grants is \$300. Applications for grants to be awarded in 1929 must be made not later than January 31. Information respecting mode of application, etc., will be furnished upon request to Waldo G. Leland, Permanent Secretary of the American Council of Learned Societies, 907 Fifteenth Street, Washington, D. C.

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The 1928 meeting of the American Psychological Association will be held at Columbia University, Thursday to Saturday, December 27, 28, and 29. The business meeting will be held Thursday evening; the Annual Dinner followed by the Presidential Address and smoker, will be held Friday evening at the Pennsylvania Hotel. Apparatus will be exhibited in the Physics Building of the University. The Program Committee will continue the programs for graduate students who are not members of the association. Papers of general and theoretical interest will, for the most part, be placed on the first day of the meetings, and, in general, the third day will be devoted to clinical psychology. \



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# THE JOURNAL OF PHILOSOPHY

## RELIGION AND THE PHILOSOPHICAL IMAGINATION

THE relations between philosophy and religion have always been extremely confused and obscure. Religion appears to be connected on the one hand with the deeply irrational needs and excitements of human nature, and on the other with an assumed supernatural order which brings a deep irrational peace, a quietistic escape from the confusions and frustrations of the natural world. Philosophy has been traditionally concerned with the cool attempt of reason to frame a steady vision of all things in their order and worth. Religion has its roots and sources in a hasty assumption of magical and personally conceived efficacies and in impatient terrors and superstitions. Philosophy is allegedly the product of a deliberate and logical detachment clearly envisaging the ultimate nature of existence.

The relations of religion and philosophy in the past have as a consequence been highly controversial. Philosophy has arisen as a critic of the tangled skeins of myth and magic, of creed and tradition, of private ecstasy and traditional creeds. It has tried to expurgate theology of self deceptions and logical confusions, or to explain away God. Philosophers have been the intellectualistic critics or the intellectualistic apologists for religion. Religions grown self-conscious have turned philosophical and turned mysteries into metaphysics, mystical insights into logistical proofs, the vision of God into a formula of his being. Philosophies have, in the midst of defending or disposing of traditional theological conceptions (or even in ignoring them), found themselves ultimately, in so far as they were more than verbal formulas, precisely such visions of destiny, ultimate and moving, as constituted the themes of religions.

The long-standing quarrel or the illicit alliances of reason and religion have been due to a singularly literal misapprehension of what the function of reason and religion are. It has traditionally been assumed that philosophy is a logical demonstration of truth and that religion is a magical revelation of it. From the point of view of a humane observer, committed neither to the exaltation of reason nor to the rationalistic defense of religion, the functions of both must be differently conceived. That technique called reason by which philosophy traditionally has been presumed to demonstrate the truth about the cosmos turns out upon examination of human history and the human scene, turns out, in other words, upon empirical examination, to arise as a practical servile instrument of



a perplexed animal in a complex and changing environment. It is that process by which the troubled human creature establishes some operative bases of stability to guide and to prosper it in an uncertain temporal history. The efficacious structure we call "the world" is a system whose constitution is determined by its relevancy to human needs, by its felicitous practicality. It remains in essence a poetic synthesis, a construct which happens to be useful and auspicious. That it is a poetry, that it is a synthesis, the history of science and philosophy both show. Successive critiques of science have been long laboring in showing the limitations, the relativity, the logical contradictions and defects of that world of space and time on which the dogmatic mechanist has so long been content to estimate all rival forms of truth. Science has given us a figment now become so routine that we lapse into calling it reality. Kant elaborately elucidated the simple position that it is a figment whose structure is determined by the subject for which it appears. The world of appearances is no less an apparition because it is so dependable, so steady and so clear. But it is not necessarily an apparition in the sense that it may be conceived of as being the provincial poetic surrogate for the Unknowable, a Reality which in the common and determined garb of the known world of science became an object of knowledge. It is an apparition, rather as a work of art is an apparition. It is the product of a creative intelligence, a dream whose categories are determined by practical reference and mundane utility.

The imagination has been discounted by philosophers and scientists because they have felt a moral necessity for identifying the coherent dream of mechanism or the self-consistent fiction of a metaphysical construction with an ultimate reality and an unimpeachable truth. The naturalistic mechanist and the absolute idealist have confused the activity of creative cosmic fiction with the process of verifiable discovery. What is really the work of synthesizing imagination they have held to be the activity of a discriminating analytical inquiry.

It is on the basis of the hypostasis which philosophers and scientists have made of their particular fictions of reality that they have defended or condemned religion. Religion and science, religion and philosophy, have been two fables that have quarreled with each other to be called unmistakable descriptions of authentic being. And on the basis of practicality the dream of science has certainly had the advantage. In comparison with its sober mechanical categories, the flaming mythologies, the dramatic histories, the melodramatic systems of salvation of religion have seemed false, irrelevant, misleading, and insecure. They were at best promises of a world that was not here, images of a world that was not now. Their histories could be



shown to be lies, and their prophecies were always half suspected to be so. At least science could always be checked up by the senses and by its diurnal efficacy, metaphysics could offer clear and distinct ideas and at least demonstrate a world that could not be discovered. Religion had ultimately always to refer to some special and suspect avenue of revelation, or to a special organ of insight that must to reason and the senses remain more than half suspect.

The whole study of religion is illuminated when it is seen that those versions of life and nature that go by the name of religion, like those versions of nature that go by the name of science or metaphysics, are complex poetic fictions, which in the case of religions become socialized, systematized, become a doctrine, a ritual, and a church. The imaginative character of scientific and philosophical systems is forgotten because their language and their temper are those of prose. Both are themselves suspicious of those flights into worlds not here and memories and promises of wonders not now, of those humane and dramatic categories in which religious eloquence has been traditionally prone to read nature. The imaginative character of religious systems, histories, dogmas, and rituals is forgotten, because each religion comes to its adherents and its destroyers with the soothing or provoking certificate of a divine revelation. It is the voice of revealed truth, not the poetry of human aspiration, of longings for other worlds and the desire through some seduction of sense or imagination to escape from this. Both the rationalistic philosopher and the reasoning theologian have taken themselves and each other literally. In taking their own word for what they were doing, they have failed to recognize what was being done.

The business of an emancipated philosopher, emancipated, that is, from literalness in both religion and philosophy, would appear to be something different from arguing a case for or against what religion says, and seeing rather what it is or does. It would appear to be his concern to follow each religious tradition, its doctrine, its ritual, and its organization, to the human sources and motives out of which these have grown, to the ideals of which they are the embodiment, and to the social consequences that each imaginative version of life and nature has for its believers. Philosophy must cease to treat as formulas what is really a high and consequential form of art. It must cease to criticize on the ground of truth and falsity what is rather estimable and appreciable as a metaphor. It is a metaphor, too, that lingers largely because it so aptly reveals some native tendency, some characteristic tragedy, some permanent hope or despair of the human spirit. We live in a world where all discourse is metaphor and where the metaphors of religion have been curiously congenial and luminous articulations of what science is not interested in uttering and what metaphysics is too abstract and general to express.



The history of religion thus sympathetically and liberally surveyed, is the history of variegated embodiments of human ideals of a perfect world, of perfect beings, and of perfect peace. In a sense it is the history of the ways of life, not of ways of life here and now, but for and in eternity. It is the history of the imagination in a more passionate and poetical form than is the history of speculation. What in philosophy is an intimation of the absolute, in religion is a vision of God; what in Greek speculation is *pneusis* or the movement of nature, in Greek mythology is the chariot of Apollo crossing the Heavens and thus lighting the earth, or Poseidon agilely stirring or benignantly calming the sea; what in medieval speculation is the absolute intellectual identification with God, the one in Dante's *Paradiso* is the vision of the Mystic Rose. What in Greek philosophy is a sober discourse on a prudent way of life in this world, in the Greek mysteries is an ecstatic invitation to a transcendent way of life in another.

The imagination in both philosophy and religion has its laws; in philosophy they are those of an inner consistency or a pragmatic reference; of logical order or of practical verifiability. The imagination in religion has its laws likewise, but they are those determined by the canons neither of logic nor of practical efficacy. They are constituted by the needs and fears, the hopes and the frustrations, of that spirit which the body and necessity permit for a brief time to flower. The consistency of the world of the religious imagination is congruity with the native impulses of the human spirit and some compensation for its natural defeats. That is why for all the variegated language of religion, its themes remain substantially the same; its logic almost identical. If philosophy is a way of life and science a way of control, religion is a way of escape and a way of salvation. It is escape from the uncertainty, the transiency, the moral meaninglessness of a world to one whose geography is composed of desiderated perfections and whose meaning is secured by the presence of a God, a purpose, and a pattern.

Once religion is conceived of as a lyrical and dramatic symbolism by which the significance of life, the movement of nature, the aim and direction of human action is represented, the whole approach to theology, to ritual, and to ecclesiastical organization is transformed. Theology, whatever its alleged and official function, turns out to be, in essence and in actuality, the formulas by which life tries to express its notion of a perfect being, of the relation of man to that perfection, and the methods by which man may be redeemed from fact to the experience of pure ideality. Ritual ceases to be what Euthyphro defined it to be in Plato's Dialogue, "a commerce with divinity." It is not a practical technique by which the gods



may be coerced. It is a symbolic ceremonial by which the individual crises of experience, birth, the beginnings of adolescence, marriage, death, the renaissance of nature in spring, and the death of things in autumn are raised from their momentary and meaningless provincialism to the significance and status of the eternal. The physical fact of birth is, for example, in the Christian tradition made by baptism into a sacrament. It is an imaginative ceremonial rendering of the dual fact that man as a creature is born to the chaos and corruption of life, but that through interceding grace he may be redeemed to that pure and immortal essence which is his ideal possibility. The Eucharist makes eating of bread and drinking of wine a kindly self deception by which the life and death of one man in history is made the pattern, the example, and the instrument of redemption of all men through eternity.

There is a picture in the Vatican Gallery at Rome that admirably illustrates the significance of those poetic forms of idealized life which religions have called paradise. It is the *Trinità* by Raphael. In the lower half of the picture are a group of theologians discussing theology; in the upper panel is a vision of God surrounded by saints and angels. That vision above is the object of adoration; it is the theme of all the discourse below. Just as ritual is a symbolic representation of the significance of crucial episodes in experience, so theology breaks occasionally beyond the bonds of that logic which constitutes its technique to that imagery and music which construct a world of supernatural reality out of the happiest materials, the brightest scintillations of that actual world which philosophers and theologians like to call appearance. The Greek gods, all celerity in movement, swiftness, clarity, and light, are human beings as they would wish themselves to be and as they therefore imagine the Greek gods to be forever, the Olympian family is what might be described as Greek sculpture turned into theological eternities (much, indeed, as Platonic ideas may be described as Greek marble turned into eternal essences). The forms of art become quintessentialized into the Forms of Aristotle, the serene and winning forms of life become the gods of the Pantheon.

In the more tragic epic we call Christianity there is an idealization not simply of the felicities of life, but a poignant rendering of its tragedy in the eternal and invariant terms of pity and redemption. It is no longer a question to the interested observer of the human scene whether Christ lived or not or whether through the intercession of Christ man may not be saved. The whole touching story of a god become man that man may be saved is paraphrased in the symbols, mythical and humane, of what the limitations of life are and what its fulfillments may be. It is a way of saying what intelli-



gence finds to be true, that the human creature, the victim at once of his own blindness and of the order of Nature, futile and uncaring, out of nature and his own will can not be saved. There is no moral reason why massive blind corruption should be saved, nor any mechanical certainty that nature will trouble about his salvation. If salvation is to come at all, it can only come as an act of grace, and on the ground of pity. If it is to be achieved, it can only be so by a force transcending the careless chaos or the merely random order of nature. All this is what the myth of Christ symbolically states. Christ saved man not because he deserved it, but out of pity. Man could not be saved by nature alone, but only by God. Take the myth as true and it becomes a highly controversial hypothesis, take it as false and the meaning of the myth is obscured and forgotten. Take it for what it is, a picture rather than a proof, a moral persuasion rather than an argument, and it becomes part of those variegated constructions by which the mind of man has tried to render the flux and tragedy, the fulfillments and stabilities of life intelligible to his own spirit.

So far in this paper religion has been treated as a form of the imagination and the imagination has been treated as a soliloquy, and it undoubtedly remains true that out of whatever common and communal conditions and crises of experience religious myths, rituals, and theologies arise, their characteristic formulas must always have occurred to those rare beings one calls prophetic geniuses. If religion is a form of poetry, the authors of its classic expression must certainly have been poets. It remains true, likewise, that however complex the intellectual doctrine, however complicated the ecclesiastical machinery by which this poetry becomes socialized into a cult, a church, or a tradition, its net effect upon a believer is the effect of a soliloquy personally relived—the drama of Christ's life becomes the drama of the inner conflict of the individual soul. The society of happy saints who constitute paradise is for the aspiring believer a society in which his own citizenship happily prefigures. That is why William James was justified in his extremely individualistic treatment of religion. Where it is genuine, religion is a personal search for a personal salvation. The history of religion might from one aspect be adequately treated as the history of religious poets and those readers and believers whom they have moved.

None the less it is impossible to treat religion from this separatistic soliloquizing angle alone. What distinguishes religion from mere poetry is not simply that its themes are more grandiose and comprehensive than that of most poets. It is poetry not simply as a private experience casually disseminated, but a common tradition publicly and deliberately propagated and maintained. The burden of human



experience finds prophetic genius to express it in a myth, a message, or a doctrine. The crises of human life generate a characteristic ritual by which these crises are met, universalized, and expressed. But the prophecy becomes a doctrine, the message becomes a catechism, the myth becomes sacred history. These are a social property, a social possession, what Professor W. T. Bush has well called a patrimony. They demand organization, exposition, official communication; they generate a priesthood and an official religious society, the church. Nothing would on its surface seem to be farther removed from poetry or prophecy than a cult or a church. Yet these are simply evidence of how seriously the poetry, the prophecy, and the message of religions have been taken by human beings. Religion is not simply imagination, but imagination social in its origins and its consequences. The church is the organ of a cosmic poetry become controlling and traditional in the lives of millions of believers. Just in the same way therefore as it would display a singularly illiberal lack of understanding to condemn religious doctrine for literal falsity, so it would display an equal lack of sympathetic temper to condemn or criticize ecclesiastical institutions on the basis of their purely material embodiment or consequences. The church is simply the stumbling human attempt to take its religious idealizations seriously and to take them seriously by giving them a form, a public status, to make them communicable. The error of religion and of critics of religion has been to estimate ideal constructions by criteria of facts. In other words to take metaphors as dogmas. The error of criticism of ecclesiastical institutions (and of their defenders) has been to take them as privileged bureaucracies instead of as organs through which private visions or moving social traditions might be made permanent, contagious, and secure. When St. Augustine long ago made the church on earth the earthly incarnation or manifestation of the City of God, he was giving it perhaps a place that it in fact does not deserve. But St. Augustine was a Platonist and one must take his statement platonically. He was in essence simply calling attention to the fact that the church is in any religion that society by which God, heaven, and salvation cease to be personal vagaries or hysterias and become the common property of mutually sympathetic human intelligence. The anomalous position of the church lies in the fact that though its mind and its imagination should be in heaven, its property is on earth and its officials are all of necessity earthly. It becomes tangled up in the politics and temporal confusions, the dishonesties, the prejudices, and the passions of that world in the midst of which it is supposed to stand as the emblem, the banner, the organ, and the social expression of the city of God. In its hands a poetical mystery tends to become an ex-



clusive secret possession; its ritual ceases to be a symbolism and turns into a legalism precise, rigid, and cruel, as it did in the hands of the Pharisees. It became simply one more form of earthly bureaucracy instead of a society of common worship and common hunger for salvation.

All this does, I think, serve to explain why the approach from the institutional side of religion has always so repelled the sensitive and made the rational impatient. The sensitive to whom religion is an experience of life in its more heroic and ideal aspects have been rebuffed by the official literal-mindedness of an organized hierarchy placed between them and their vision of God, or of heaven. The rationalists have seen in religious institutions the vested interests of a properties or official class, have dismissed the hierarchy of cults and churches as a lover of learning might dismiss the administration of a university. They have forgotten that the human being even in his religious moments is not a soliloquizing poet, but is always a half-lonely member of a group whose contagion and moral support he desires. Even the hermit in imagination lives in the society of saints in heaven. Even the monk has his companions, and the philosopher his friends and correspondents. The poetry of religion, concerned as it is with so many issues involving other people, demands the presence of other people, through amiable or actual connivance for the expression of that emotion which the symbols of religion arouse. It is a need of social sanction and support and communal expression that has always tended to make mysticism, the most private of experiences, turn so rapidly into a mystery cult. It is what has kept Protestantism, so individualistic in its theory, so persistently social in its practice. It has been the basis of the fact that Christianity has never been simply the Christian soliloquy, but has been the constantly reenacted drama of the Mass by the Church.

To the philosopher, therefore, the history of religion demands attention as a symbolism of three levels of expression. First, what one might call the pure poetry of religion, the actual content and imaginative significance of those images of heaven, those ways of redemption, those avenues of escape which are doctrines and pictures in the religious patrimony. These must be treated as typical poetical embodiments of the way in which the private imagination has reacted to the ideal hopes and the tragic frustrations of life in the world. In religion all these items literally taken go by the name of theology. Secondly, the philosopher is concerned with the symbolism present in ritual and in ceremony, the expression in act of that poetry which in contemplation constitutes the objects of religious theory and vision. Thirdly, the philosopher must see the church, any church, in terms of that traditional patrimony of which



it is the social communicant and expression, and recognize the imaginative necessity and consequences of that public association which it is. Seen in this light much of the quarrel between religion and science, much of the antipathy between philosophy and religion, become odious and irrelevant.

Seen in this light also much of the criticism of ecclesiastical institutions and much of their defense lose their point. The institutions through which the creative and traditionalized imagination become operative are, like all institutions, subjected to the vicissitudes and corruptions of their members and their mechanisms. It was Voltaire who said that if there had been no God, it would have been necessary to invent one. It might be added that if the religious imagination had no church, it would be necessary to find one. The poetry of religious vision is a culture trait of that social background and cultural history which finds in revelations and apocalypses, in mystical visions, and in consistent logical doctrine its imaginative embodiment. This embodiment would remain private, transient, and obscure if it were not clarified and given repeated communal expression, and the way of communal expression is in the service and ritual of a creed and a church. There is a bleak and lonely beauty in the picture of the saint communicating directly with his God, but the content of his vision and the structure of his paradise will be derived very largely from the corner of earth, the inhabitants, and the social tradition from which his poetry must perforce borrow its symbols. That vision itself would be forgotten or unintelligible save that it brought to focus the common aspirations of many minds moved by an identically intelligible symbolism, built upon commonly understandable and appreciable hopes and fears, triumphs and defeats. Religion turns out upon examination, then, to be something more than a personal hysteria or excitement, something more than a private and incommunicable literature of escape. It is rather the language by which any social group through some of its inspired representatives frames a vision of an ideal society, a paradisaical citizenship in which all the members of a given group can in imaginative anticipation live. One might indeed reverse St. Augustine; the church is not the earthly embassy of the City of God; the City of God is the ideal object which becomes vivid and communicable through creeds and rituals, the dogmas, the formulas, the forms of worship in which a social group manages to articulate its vision.

Religion thus conceived is the poetry of the race objectified into dogma and transmitted through a church revived now and then through the appearance of those geniuses of fresh insight who go by the name of prophets or heretics. The limitations of religion, its cruel blindnesses and bigotries, the false hopes it has led men to entertain,



the narrowness it has persuaded them to practice, all find explanation. The failures of religion are the failures of a social imagination that can not help reflecting the crudenesses and provincialisms of the level or quality of culture that gives it birth. The beauty of religion and in a profound sense its permanent truth lies in the fact that whatever defects the expression of religion in any period or in any church has, its intentions have always been cosmic, moral, and fundamental. It has been the stammering human periphrasis for a private and instant vision of what existence purified and cleared of its dross might be. Christianity, Buddhism, the religions of Persia and Egypt, the inflexible monotheism of the Jews, the militant monotheism of the Mohammedans, have all been special and local dialects of a common language. They have been the vocabularies in which the heart of man has tried to comfort itself, ways of escape from the natural world, visions of a world to which the distilled spirit might arrive through grace or sacrifice, through asceticism and abnegation, through penance or good works or disciplined contemplation.

It remains among many other things to be noted that the traditional dialects in which the persistent imagination of religion has uttered itself, have become difficult, irrelevant, for many minds provoking. They have been taken so literally that for many people their symbolism is irrecoverable. The Ptolemaic astronomy in its conflict with the Copernican has obscured the moral significance, the symbolic suasion of Christian imagery and doctrine. The clear and intense dichotomies between good and evil ways of life which constitute the heart of prophetic Judaism have been hidden by the now otiose and incredible Mosaic cosmogony. But the human need for expressing the tribulations and the ideals of human experience still persists. The light may be out of the old Heavens and a darkness over a naturalistically conceived earth. But the classic predicaments and aspirations that generated the old mythologies and doctrines still endure. Neither death nor defeat, neither life nor desire, have faded from the natural scene.

It goes not quite without saying that our new knowledge and unprecedented cultural situation, the technologies that form the conditions, the moral confusions that are their bitter and confusing fruit, will need to frame somewhat differently, will necessarily differently express the salvation we are seeking, the corruption and destruction which we are seeking to avoid. The newer metaphysics, too, has determined a different angle of vision, and will have to find a differently uttered object of aspiration. For the old world of fixity and determination, we have begun to substitute not a reality, but a process, a continuous and creative experience, all growth and freedom,



in which intelligence has a possible and a positive rôle, the rôle of constantly varying experience itself, so that a remote and paradisiacal possibility of today becomes the enrichment of tomorrow. The new technology, the consequent social disintegrations and moral chaos of a society physically efficient and spiritually disorganized, develop their own special problems, their own unprecedented hopes. The new wisdom which sees Time not as devouring its children, but generating ever fairer possible progeny, will have to find emotional expression in new forms. The new world and its dispensations have produced hitherto impossible visions of more possible worlds. The old images of Heaven and salvation will not do where Heaven is not longer found in peace, but in adventure, salvation not the rapt and static contemplation of the eternal, but in the creative arts of life. At not some remote date, when the whole impact of the newer movements in thought, the as yet spiritually unassimilated conditions of life may have become part of the daily imagination, as they have already become part of the daily routine of contemporary society. A new set of symbols will arise, words that are not meaningless transferences from a setting that is past and illusions that are gone, but that arise out of the promptings of current experience itself. We are at present living, to paraphrase Matthew Arnold's phrase, between two religions, one dead and one powerless to be born. Or to put it more precisely, between one dying and of irrelevance, and one yet to be more than an infantile hungering after speech.

In this period it would be impossible and improper for a philosopher, with his eye turned upon eternity, to speculate about a future or a past which under the eye of eternity is non-existent. But the philosopher can look at the future not with eyes of a prophetic determinist, but with the eyes of a dramatic poet. He can at least imagine the kind of religion that a future arising out of the present situation would need, and at least look back with retrospective sympathy at a religion whose date but not whose wisdom is altogether in the past. For free as contemporary thinking may be of traditional illusions or vanished forms of life and society, practise and art, the old symbols are not altogether meaningless to us. Nor is it likely that whatever the religion of the future may be (and that there will be none is to assume the end of all art and imagination and science and thought as well) or whatever the inanition of present religion is, the old symbols are without their depths, their induplicable wisdom, their as yet unparalleled insight and tenderness about the ultimate hopes of mankind. In their myth and magic once literally taken, he will find a patrimony of images. He will find in them expressions of those classic predicaments which human creatures in any age and under any formulas of thought find themselves in.



No optimistic radiance about the control of nature or the discipline of human nature can altogether cloud that tragedy of necessity or confusion, that thirst for freedom and clarity, which have informed so much of traditional mythology. Classic forms of art have survived unprecedented changes in existence. Greek marbles and Christian painting have not become unappreciable or unintelligible in a world given over to industry and empire. There is no reason to believe that classic forms of religion, the most serious forms of human art involving the widest passions and issues, have become unintelligible to an age which has new problems and a new vocabulary. The modernist critic need not be misled into dismissing these ancient enshrinements of inexpugnable human crises as true or in condemning them as idolatries. These embodiments of the hopes and difficulties of dead societies are neither simply beautiful nor simply dead. They are part of the continuing imagination, the living social heritage. They may function as living words and images, more living because of their mellowed associations, along with new words and unantedated images. Out of all this may be constructed a religion, a relevant body of metaphor to express contemporary knowledge, contemporary needs, and contemporary loyalties and devotions. These in their deeper rangings will be found to be not dissimilar from those of human beings with other problems and other languages and other symbols, but with crises we can recognize and urgencies like our own.

What this poetic embodiment of our own age will be it would require at once a prophet and poet to suggest. Just as the medieval theologian suggested God by negatives, so perhaps this possible religion will be suggestible here. It will be without traditional unctions or falsities. It will not try to cloud inquiry by the noxious clinging to false illusions by faith. Its church will have to be free of all hierarchy, exclusiveness, or possessiveness. This church will have to have a ritual that will not be an artifice of illicit science, a magical device. Its positive content, its auspicious ritual, its organization are for that not impossible religious genius who in the very midst of our confusions may arise to find the liberating words that will meet our new situations and the ancient hungers of our being. Whatever it is, it will function as religion has always functioned, as the poetic translation of experience, as that by which, in the old language a man lives, that realm of imagination by which the deeper currents of his practise are controlled. Its ritual will be concerned with those forms of art which comprise the aspirations of life. Its church will be a holy place, holy in no dread and barbarous sense of a tabooed spot, but holy in that it is the society, the communion, like the players in a Greek tragedy, which expresses what is most central and moving in the hearts of its communicants. God for it will perhaps be unimagi-



ably different from anything the tradition-cramped minds of men thus far have found to express. Salvation will be no conventional hypostasis of rest or thought. There will be perhaps a high element of adventure and excitement in the peace it offers. But God, however he be called or defined, salvation, however be it denominated or described, will be what it will provide.

That religion in some such sense will persist is questionable only to those who believe that long before the earth will have frozen forever, the heart of man will have frozen, and with it that happy process of imagination by which that heart has fulfilled those of its longings which nature or current society denied, that happy process by which a meaning is read into experience, and that meaning is found good.

IRWIN EDMAN.

COLUMBIA UNIVERSITY.

## SUBSTANCE

IN his *Dialogues in Limbo*, Mr. George Santayana has made Democritus the spokesman for substance in a manner to arrest the attention of philosophers. The case is there stated with simplicity, directness, and clearness rarely, if ever, equalled. The statement, as the *Dialogues* themselves indicate, may not carry conviction to every mind, but, as they also disclose, it can hardly fail to leave upon the mind of an attentive listener an impression of inevitability. Substance is the ground and antithesis of every dream or illusion just as health is the ground and antithesis of every form of disease. And dreams are no more dispelled by further dreaming than disease is dispelled by falling ill again. One must wake up from the dream just as one must get well, if illusion and disease are to depart. The waking and the cure are both wrought by substance which itself wrought also the dream and the disease. For dreaming and sickness can not be affirmed to be unnatural since both duly occur in the order of nature, but since they do occur in that way, that order or constitution of nature by means of which they arise can itself be neither visionary nor sick, but is antithetical to them, as substance is to appearance. To construe the order of nature in terms of appearance is, therefore, madness. The way of substance alone is the way of sanity.

This is an old doctrine. It is doubtless as old as Democritus, as Mr. Santayana would have us believe, even if in individual cases it may not "sit crowned with all the snows and wisdom of extreme old age." Modern philosophers have generously accorded it antiquity.



They have, however, often looked upon it as evidence of an immature rather than a ripened wisdom. For they, like Locke, whom they have followed closely or from afar, have seen in substance "something I know not what" instead of something to which the knowing mind clings in the practical interest of a sane and ordered life, or in the theoretical interest of maintaining continuity in an evidently divided and shifting world. The difference between the two attitudes is considerable. It is easy to reduce knowledge of substance to profound ignorance of it, if one will adopt a method appropriate to that result. The thing has been done many times with always the same bewildering outcome that ignorance is somehow established with no clear indication of just what it is of which we are ignorant. Bradley, for example, looking for substance in a lump of sugar, could not find it. He found rather that even in so homely a commodity which the taste acknowledges as sweet, the eye as white, and the fingers as hard, the distinction between a thing and its qualities carries us nowhere with satisfaction. But of what are we then left in ignorance? Bradley's analysis may leave us bewildered. It leaves sugar, however, precisely what it was and something to be analyzed by a chemist in quite a different fashion. And the fashion of the chemist does not leave us bewildered and confused. It leaves us rather enlightened both in practise and in theory. The analysis of the philosopher and that of the chemist are thus quite different in their effects—a difference which one might urge is the rather radical difference between ignorance and knowledge. For even the philosopher, when *in extremis*, seems forced to admit that anyone desirous of really knowing what the substance of sugar is, must ask a chemist to tell him. Knowledge as over against ignorance, being awake as over against dreaming, reality as over against appearance, carry us to atoms and the void, to substance as it is actually explored in utter disregard not only of passionate and moral distinctions, but also of those reputed logical distinctions which would force even upon substance itself a division between it and its attributes. In other words, we may dream as much as we like and construe nature in moral or passionate terms which are agreeable to our imagination, hopes, and fears, but we are awake and sane only when we construe her in terms of atoms and the void.

This is what Democritus seems to say in the dialogues. Atoms and the void are terms obviously dear to him and ought not to trouble the modern reader who may suspect that they are antiquated. The modern disciples of Democritus have other terms equally dear to them. But with him and them alike, they are terms for substance, for that which is determined and determinable with an indifference absolute and complete to any wish or hope or fear, to any liking or dis-

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liking, to any good or bad or right or wrong, even to any truth or error, if this last distinction implies anything beyond the acceptance of the fact of substance itself. So Democritus seems to say. And all of us, no matter by what adjectives we qualify our philosophy and no matter to what faith we give our allegiance, all of us seem driven at one time or another to say the same thing, even if we say it in different words. We confront and are confronted with substance, not as a vague hypothesis, nor as an epistemological assumption, nor as a limitation of knowledge, but as something recognized and to be explored—the positive fact which is negatively expressed by saying that out of nothing nothing comes. But since something comes, something which is a confused collection of good and evil, beauty and ugliness, peace and war, truth and error, that from which all this comes must refuse for itself these passionate distinctions which it generates. These distinctions, no doubt, are—for do we not experience them?—but they are as qualities of events that happen, not, however, as qualities of that from which events spring, but qualities of substance which by possessing them makes some vessels for dishonor, others for honor. From atoms and the void came earthquake and fire upon the city, not in order to punish its wicked inhabitants while the good also perished, nor yet, by making some suffer, to provide for others an opportunity for showing mercy; they came because they came. So we are driven to acknowledge substance, not that thereby we may solve philosophical problems, but that, thereby, we may keep ourselves awake and from going wholly mad. Otherwise we should awake from dreaming by dreaming again and get well of one disease only by falling into another. Substance seems inescapable.

But consequences of a profoundly interesting sort follow upon the recognition and acceptance of the inevitability of substance. That recognition may lead one to love, as it led Spinoza, to laugh, as it led Democritus. It has diverse effects. In the dialogues the argument of Democritus is left unimpaired, but its effect on the Stranger is the telling of a beautiful and pathetic story, and on the others, except Democritus, the making of a new religion for which, when he understands it, he supplies the ritual. The effect on himself is too powerfully expressed to be summarized in a phrase.

*Alcibiades.* Aristippus and Dionysius are enemies of science, and you, Democritus, are a believer in it. Being no judge in the matter, I will not pronounce between you, but I can conceive that a man who has spent his whole long life distilling herbs and grinding stones into powder should believe that he knows something of their substance. Nevertheless, intense study, too, is hypnotic, and might not the lucid theory of nature which you think partly awakens you out of the dream of life, be but a dream within a dream and the deepest of your illusions? My whole career seems a myth to me now in memory;



yet when I interpret it in terms of your philosophy and imagine instead nothing but clouds of atoms drifting through a black sky, I seem to be descending into an even deeper cavern of reverie. Suppose I was dreaming of a chariot-race, hearing the shouting crowds, blushing to be myself the victor, and reining in my quivering steeds to receive the crown and suppose that suddenly my dream was transformed, and Olympia and the sunshine and myself and my horses and my joy and the praises of the Athenians turned to atoms fatally combined—I am afraid that, like the child in the Stranger's tale, I should burst into tears at that change of dreams.

*Democritus.* Do you think I should blame you? Is the sublimity of truth impatient of error? I know well the shock that comes to innocence on discovering that the beautiful is unsubstantial. The soul, too, has her virginity and must bleed a little before bearing fruit. You misconceive my philosophy if you suppose that I deny the beautiful or would madly forbid it to appear. Has not my whole discourse been an apology for illusion and a proof of its necessity? When I discover that the substance of the beautiful is a certain rhythm and harmony in motion, as the atoms dance in circles through the void (and what else should the substance of the beautiful be if it has a substance at all?) far from destroying the beautiful in the realm of appearance my discovery raises its presence there to a double dignity; for its witchery, being a magic birth, is witchery indeed; and in it its parent nature, whose joy it is, proves her fertility. I deny nothing. Your Olympian victory and your trembling steeds, spattered with foam, and your strong lithe hand detaining them before the altar of Apollo, while you receive the crown,—how should science delete these verses from the book of experience or prove that they were never sung? But where is their music now? What was it when passing? A waking dream. Yes, and grief also is a dream, which if it leaves a trace leaves not one of its own quality, but a transmuted and serene image of sorrow in this realm of memory and truth. As the grief of Priam in Homer and the grief of Achilles, springing from the dreadful madness of love and pride in their two bosoms, united in the divine ecstacy of the poet, so all the joys and griefs of illusion unite and become a strange ecstacy in a sane mind. What would you ask of philosophy? To feed you on sweets and lull you in your errors in the hope that death may overtake you before you understand anything? Ah, wisdom is sharper than death and only the brave can love her. When in the thick of passion the veil suddenly falls, it leaves us bereft of all we thought ours, smitten and consecrated to an unearthly revelation, walking dead among the living, not knowing what we seem to know, not loving what we seem to love, but already translated into an invisible paradise where none of these things are, but one only companion, smiling and silent, who by day and night stands beside us and shakes his head gently, bidding us say Nay, nay, to all our madness. Did you think, because I would not spare you, that I never felt the cold steel? Has not my own heart been pierced? Shed your tears, my son, shed your tears. The young man who has not wept is a savage, and the old man who will not laugh is a fool.

If, then, we are to take the dialogues in which Democritus figures, as a veracious document—and I think we must—and if we are, with an open mind, to consult human experience, there seems to be an unescapable conclusion; substance is not the end of something, but the beginning. I am tempted to say that it is not the last word in philosophy, but the first. By that, I do not mean that the later words will unsay the first or so respell it that it will sound with a



different tone. It is neither to be unsaid or respelled. And I can believe that unless this is generously and whole-heartedly recognized, there is no wisdom to be sought by philosophers. Substance is a first word; yet nothing is clearer than that there has followed upon its admitted spelling such things as religion and laughter and love. Granted that from the indifferent determinations of substance we have come to be what we are, and, being what we are, we are confronted with substance as the first word which spells all the difference between dreaming and walking, between ignorance and knowledge, there seems to be no intelligible appeal back again to substance for what may then eventuate. On this I must insist in the face of everything that may be alleged against it. It is easy to say that substance is still at work, that what eventuates upon its summons from sleep is still to be credited to its operations, but Alcibiades has the ready answer that this is only to sink into a deeper dream. This will not do. The situation is one which dialectic confuses and does not relieve. Facts are more potent. And the fact is, by whatever standard we apply, that being awake to substance is a liberation. If we ask for evidence, it freed Democritus to laugh and Spinoza to love. To be confronted with substance is to be confronted with an opportunity. What happens after this experience is not construable in terms of what happened before. The recognition of necessity, which is only the recognition of secure knowledge as over against insecure ignorance, opens the door to freedom, to use, and to exploitation. There are few better attested facts. Secured knowledge does not determine what a man does, but reveals him as determining what follows upon it, from the building of a bridge to the building of a church.

This may be a last word, as Democritus and Spinoza would evidently have us believe while still insisting that medicine and society are worth the attention of a liberated soul, not for its own sake indeed, but for the sake of the sick, whether they suffer from ills of the body or those other ills which bondage to the passions generate in gregarious mortals. It may be that we should stop here, admitting that liberation happens and that a consequence of it, besides laughing and loving, is service. Yet one may neither laugh nor love, and, doing either, one may not serve, although the instances I have given are actual and daily verified. The liberated soul may embrace instant death, which Democritus recognizes as a radical cure for every form of madness, but does not prescribe. He withholds it for the subtle reason that it substitutes for all blatant errors "one great mute and perpetual error: the total ignorance which besets the atoms regarding the patterns and the dreams which in fact they generate." But the choice is possible no matter what



logical substitution of error it may imply. Its absurdity is, perhaps, the least impressive thing about it. Its impotence is more impressive. That the first exercise of liberation should be absolute surrender looks like something unmatched in futility. It is as if a physician should discover the cure for a dread disease only to destroy it thereupon forever. But it is not wholly like this, for the physician might have enjoyed a curious glory in keeping the discovery to himself, or might have concluded it were better for men to suffer or that they were not worth release from their pains. Such considerations are denied the free choice of instant death. If the embrace of it involved the simultaneous destruction of substance—which is indestructible—it is difficult to conceive a choice which would have a higher recommendation. But substance, like the old woman in the Stranger's tale, is not disturbed by any death.

Perhaps we should not stop with the unparalleled futility of the absolute surrender. For to be free to die is for the liberated soul the recognition that substance makes no claim upon it that it should live. That's what its liberation means. It is free for laughter, for love, for service, but it is also free for death; and the atoms and the void yield not the slightest indication of a preference. Phrase the fact as we will—and philosophers have invented many ways of phrasing it and turned it into perplexing problems which they have vainly tried to solve—the indifference of substance to us is a genuine indifference only when confronted with the chance to choose. What possible sense is there in denying purpose to nature, or hope or fear or care or anxiety or striving or recompense or vengeance, unless in view of the possible exercise somehow of what has been denied? These operations are denied to substance although there is some specific arrangement of atoms and the void whenever they occur. To admit this is to be awake and alive to truth. It is to avoid illusion and madness. But it is to end nothing. Substance may be the first word in sanity, but it is not the last word either in wisdom or in life.

We might venture a proof of this beyond the fact itself, although we should have to admit that such a proof was a speculative diversion which borrowed all its force from the fact it would establish. We might say, for example, that the indifference of substance if really native to it, having its original seat in atoms and the void, would operate so that we should suffer without anguish and enjoy without enjoyment. The energies of substance would simply be exhausted or transformed in what was done, just as we imagine them to be in the movements of the stars or when an acid eats a metal. There could be birth and death, growth and decay, and such seethings as when water boils or chemicals combine to explode. Nature might then be infinitely diversified, but it would be indifferent through and



through. No place could be found for illusion or for the waking from a dream. The indifference of substance would not be the indication of a difference, but only a universal character attached to every event. Or we might suppose that substance was not indifferent and affirm that it really cared about what it generated. We should then need more wit than we have to understand why its care was not effective, and to keep us from imputing to it either wickedness or insanity. Indeed, as we well know, to impute care to substance is to turn substance itself into an illusion. Such proofs as these suggested ones, are, as I have said, speculative diversions. Since, however, we may make suppositions contrary to fact, they may help to show that the indifference of substance is something which finds no place in atoms and the void.

Substance, then, as substance simply—atoms and the void, ions and electrons, matter, nature, necessity—substance is not indifferent to what we do. It has that moral character in its own right no more than any other. It is indifferent, that is, not in its own terms, but in terms of something else. It is indifferent only when in its terms we seek grounds for approval and justification of what we do. Then it fails us. And because it fails us, or better, when we become well assured that it fails us, we turn it into the uses of laughter, love, service, and death. For such uses we find it well adapted. Even Democritus can join in the ritual.

Substance is, then, not the end. It is not a last word, even if without it, nothing can be nor be conceived. Indeed, to take it as such is to sink into the deepest dream and entertain the greatest illusion. For in any philosophy of human life, laughter and love and service—without which death is defeat—are more ultimate words. Spoken by souls liberated through being awake to substance, they have produced—in a sense perhaps more profound than Democritus guessed—that witchery which, being a magic birth, is witchery indeed. This no free man would willingly exchange for atoms and the void unless, perchance, having found in substance the faithful servant of his freedom, he had suffered it with his laughter or his love.

FREDERICK J. E. WOODBRIDGE.

COLUMBIA UNIVERSITY.

## CONCRETE AND GENERAL IN ART CRITICISM

IN the issue of this JOURNAL of August 30 (XXV, 18) there is an article by Marjorie S. Harris discussing the problem of beauty, which is an admirable occasion for pointing out how useless it is to talk abstractly and generally in matters of esthetics. Her thesis is



that the conception of beauty according to which "it is the perception or action which stimulates simultaneously the mental life in its three aspects: feeling, intelligence, and will, and produces pleasure by this general stimulation," is incompatible with another view which says that "actual art is quite as much an image of evil as of good; there is nothing devilish which has not been represented. And this part of art is often of highest esthetic merit." "In other words, the nature of the subject-matter is quite indifferent." Her difficulty is to reconcile these two statements inasmuch as it would be obviously unsatisfactory to feel perfectly harmonious when confronted with that which is repellent.

Let us ask what things are repellent, and let us avoid vague generality. I would find the Sistine Madonna repellent if I had a sufficiently strong dislike of the notion of grown men, who ought to know better, worshipping a divine child and its virgin mother. I would find battle pictures repellent if my pacifist convictions were sufficiently strong not to be put aside even for a moment. Barye's groups of animals in murderous struggle, and hunting pictures, especially those with lacerated hounds and game, might repel me if I had convictions of a certain kind. Some psychiatrists to-day object to all fairy tales and romantic tales generally, because these encourage immoral attitudes of compensatory satisfaction. And "realism" is disapproved by many persons because it tends toward a cynical, discouraged view of life.

Thus it would seem that anything and everything may be devilish, while for some all beauty has had this character. The time when novels were in general so considered, is not very remote.

But the maintenance of the esthetic attitude depends upon one's capacity to treat presented things as *facts*. It is a fact that the Virgin and Child are adored, that men and animals fight, that beasts are hunted, that people dream vain dreams, and that life is largely ugly. These situations can be pictured, and their reality can, for one or another person, be more or less easily prevented from interference with his perceptive apprehension. There is no obvious desirable reason why this freedom should be easily arrived at. It may well be quite otherwise, that even from the point of view of practical consequences it is better to face boldly the fact of "devilish" things, and realize them fully in their esthetic expression.

It is, however, no more difficult to maintain this esthetic attitude in the face of "devilish" things than in the face of angelic ones. Far more bad art is made acceptable by pleasing subject-matter than good art is spoiled by that which is displeasing. It is just as difficult to overcome a "disintegrating" personal attitude which has nothing



to do with "beauty" in the one case as in the other, and just as essential.

What Miss Harris has to say about Plato is entirely irrelevant. Plato is not concerned with the spectator's harmonious feelings, but with the value of that harmony in his scheme of things. He would have been the first to admit, and also to deplore, that people do in fact respond with feelings of harmony to that which he heartily disapproves. They do, but they ought not to.

In practice there are three possible conditions. One may respond to what one finds devilish—let us assume that the devilish produces a feeling of revulsion, as Miss Harris seems to suppose, though in fact this is rather doubtful—and in that case one will have none of it. Or one may be attracted to it in part and repelled in part, in which case one is not "integrated." Or one may regard it simply as *fact* toward which one is not required to take the practical attitude one takes toward the real, and in that case one is as well integrated as in condition number one, but is more favorably disposed to approach the object esthetically. Miss Harris says that she "has been attempting to suggest that one can not respond harmoniously with the integrated mental life to what is morally revolting." If she had said that one could not do so *while* one is morally revolted, her statement would have been accurate, so far, at least, as esthetics is concerned. Practically it may or may not be true that the kind of results that Plato aims at could be furthered by his program—it has, of course, never been tried—but it may also be true that practically the impartial contemplation of the devilish and the angelic may be the better way.

Miss Harris has difficulty, also, with the relation of determinate subject-matter to esthetic form. If the subject does not count, why can not it be dispensed with? Here again a sticking to real situations rather than concern with verbal forms will show how meaningless this question is.

Let us take the Sistine Madonna once more. The picture as Raphael conceived it was a decoratively plastic presentation of the Madonna and Child worshipped by two saints. Angels and accessories helped to make the composition. Let us, while looking at the picture, shut our eyes somewhat, and gradually shut them more and more, noticing the changing effects. The determinate detail will grow progressively vaguer till it disappears. The subject, that is, becomes more and more general. If the picture were more brilliant in color this might be carried to the point where nothing remains as a subject except the local colors. In fact there have been painters who were satisfied that good pictures with three-dimensional space expression could be so made, in which depth was rendered by the more or less



retreating or advancing character of cold and warm colors. Very few observers found this sufficient, but that did not make the pictures any less satisfactory to those who did.

In these varying conditions of observation the picture as a physical object is the same, but as an object attended-to it is continually varying. Every observer sees his own pictures, and this is so far true in my opinion, that I have long since ceased to discuss pictures with other people except in rare cases where I am familiar with the other person's vision. Otherwise I have no clear notion what the others see and I know that they probably do not see what I do. Criticism is then at cross purposes, and for that reason it is in large part futile.

Subject of some kind is necessary to organize a picture. In fact the organization is the picture subject in its presented aspect. It may also have meanings as drama or reference to subject-matter otherwise existent, in which case the presented aspect might be called the pattern. The pattern can be variously taken according to one's interest, and in fact it is so very variously taken, that different people's visions of the same picture may have nothing of importance in common.

My chief reason for writing this brief comment on Miss Harris's paper is to protest against a futile method for the solution of esthetic problems. Miss Harris quotes a number of "authorities" and tries to reconcile their statements. Of course, these people are no more authorities than you or I. They are simply people with half-baked opinions, which is all that *any* one can have on this subject. It is well enough to read these "authorities" for what stimulation they can provide, but the only way to go further is to find out what happens to *you* when confronted with the actual particular facts of experience. One must remember that generalizations in this field are never based on accurate analyses, for these are impossible. General statements have merely sham significance if they are divorced from clear particular reference. Art is not a field for general statements if one is at all particular that one's statements should have a meaning.

PARIS.

LEO STEIN.

### BOOK REVIEWS

*The Nature of Ideas.* Lectures delivered before the Philosophical Union, University of California, 1925-1926. (University of California Publications in Philosophy, Volume 8.) Berkeley: University of California Press, 1926. Pp. 213.

In philosophy, as in other fields, the symposium and the collaborative volume seem still to be the order of the day. Perhaps this



is the auspicious sign that the era of the lonely wrestler has passed and that we are in an age of synthesis—an age which harbors, as Professor Perry remarks, “an increased faith in the possibility of somehow conserving and reconciling the great insights.” It was a happy thought, therefore, that led these eight contemporary philosophers to engage in a coöperative series of lectures on “The Nature of Ideas.” In many breasts there throbs today the scholarly ambition to make two blades of grass grow where one grew before. One way of doing this is to chuck old terms and devise a new and more elaborate set. As against this tendency, our authors would preserve, but revise and re-define the old ones. So instead of juggling with “verbal cues” and “anticipatory sets,” they call a spade a spade, an idea an idea.

In his opening lecture, on “The Real and the Ideal,” Professor J. H. Muirhead pleads, a little laboriously, perhaps, but with eloquence, for the view that these two ancient terms are not antithetical, but complementary. The issue between idealism and realism is no longer the independence of the knower and the known, but the character of the known. Now if the real object ever “serves to embody an ideal, must it not in some sense be ideal?” As against pragmatism, the real issue is not whether ideas work or not, are the creative forces of life, but whether their significance is not rooted in an “order of being which is more than temporal.” Realism would rigorously subordinate value to existence; yet do not Alexander and Lloyd Morgan, for example, in introducing the concept of *nisus*, smuggle in a causal value-principle which is far more truly creative and explanatory than space-time? Even John Dewey in his pragmatic naturalism seems to reach out beyond “social obligation” and even “the future” to “the enduring and comprehending whole” which is the main theme of idealism. Whitehead’s “ultimate unity of value and matter of fact” is also appealed to in support of this new ideo-realism. The stage is thus set for a new synthesis of existence and value. At any rate the dove of peace is here sent forth from the ark of idealism.

Professor G. P. Adams grapples with the relation of “Ideas in Knowing and Willing.” Both are natural events and both share the “function of claim-making” or reference to something beyond themselves. But then comes the great divergence. In our knowing, we are realists, we follow reality; in our willing and practical interests, reality is molded by mind. Can these be reconciled? If, as Eddington suggests, “the mind’s search for permanence has created the world of physics,” is there not a comprehensive adaptation of mind and reality all the way around? A very temperate and judicious idealism results.



With Professor Pepper we leave the balmy oasis and fare forth into the trackless waste of "Transcendence." An illuminating analysis of external theories of transcendence reveals their common defect, namely that they "never actually make connection between the symbol and the thing symbolized." To promote happy wedlock, let us rather assume that they are in love to begin with. The internal theory that follows is built on the idea of "cosmic plot" or "pattern in action," which is essentially qualitative, "canalized," dynamic, and has concentration and fusion. Following the lines of pattern we get "immanent reference." Blocked pattern (typically error) calls for re-integration and the impulse of the pattern toward this is "simple transcendent reference." Super-patterns give us "complex transcendent reference" or description. Dr. Pepper is highly successful in avoiding "consciousness." From neural integration (of the scientist) to hydrogen atom is no more mysterious than from dog to sugar. Where, then, does consciousness of pattern figure? Perhaps it is smuggled in by Dr. Pepper's unconscious empathy—that very present help in trouble of the behaviorist.

Mr. H. J. Paton's "Idea of the Self" is a gallant defense of the uniqueness of self-consciousness as implicative of a coherent, permanent self. Realistic analysis will forever lose its "living, synthesizing activity" without which the world "falls asunder into a multiplicity of unrelated entities." All who have drunk deeply from Kant and Bergson will say Amen.

Professor Loewenberg expounds for us "The Metaphysical Status of Things and Ideas" and champions a "view of immediacy as containing within itself a necessary transition to mediation on the ground that its datum *qua* datum is ultimately a 'problem.' " Immediate experience in proclaiming the truth of realism concerns only existence. Essence—*what* reality is—can only be affirmed through standards (of correspondence and coherence), in short, through an "idealism of truth." But this is not the truth of idealism and we can only wonder if we shall ever see behind the veil. I wonder if Professor Loewenberg realizes how close to Kant he comes. In any case, short-cut realists and get-reality-quick idealists may well ponder the force of his dialectic.

What, then, of "Abstract Ideas"? These much-abused entities are vigorously defended by Professor Prall as being necessarily abstract, since to be an idea is to be abstraction. The peril comes when we refuse to admit the abstractness of our ideas and talk of "existence," "being," "possibility," "Beauty," and "the Absolute" with mystical glibness as though they meant something definite; whereas they are really but abstract names or fabricated entities. The colossal error of speculative thought lies in dignifying abstractions by



surreptitious projection into them of exalted feelings and hopes. A salubrious warning indeed. But, on his own theory, one wonders what significance is left to Mr. Prall's abstractions about abstractions.

The last two lectures are indicative of the growing influence of Whitehead. Professor V. F. Lenzen's "Scientific Ideas and Experience" is a careful critique of the new philosophy of physics. If Whitehead's theory were true (especially his derivation of such concepts as "moment" and "instantaneous nature") then "either mathematics would be proved to be as inexact as experimental physics—a disastrous result; or physics would be endowed with the exactness of mathematics." There remains a dualism between sensible experience and mathematical concepts. Mr. A. E. Murphy, whose lecture on "Ideas and Nature" is decidedly the most lucid and entertaining in the series, defends Whitehead's anti-bifurcationism with spirit and gusto against all comers. To cite Alice's Cheshire Cat, the famous smile is not a mere detached essence (Santayana); nor a mere description of the cat (Broad and Prall); nor is it an absolute existence—a vast cosmic grin, so to speak (Bosanquet). Rather the smile belongs to the cat and, as one of its related characters, really manifests the nature of the cat. So with ideas and reality. The knowing relation—as much a fact of interaction as any other fact—"does not shut us away from facts, it shuts us in with them"; and relativity is a proof of relatedness.

In spite of that fatal multiplication of terms and viewpoints which, after all, is philosophy; in spite of a shooting of many arrows in as many directions and a prodigious grappling with straw men, the reviewer feels that this symposium is a highly significant and fertile contribution to a perennial problem.

D. MAURICE ALLAN.

HAMPDEN-SYDNEY COLLEGE.

*Forms of Individuality: An Inquiry into the Grounds of Order in Human Relations.* E. JORDAN. Indianapolis: Progress Publishing Co. 1927. Pp. ix + 469.

From the preface of this work we learn that the author has been stimulated by the disorder in human relations to seek for the grounds thereof. This search led him at once to the discovery that these grounds lie in a false individualism. Furthermore, since order and disorder are relative it appears that a proper individualism, which is really individuality, might be the ground for order. This work, therefore, is an attempt to discover and state the kind of individuality which can harmonize human relations.

Of the first fruits of this inquiry the important one seems to be that false individualism is subjective and the true is objective. True



individuality for our author is corporeity. This means in effect that what we know as particular individuals are only aspects of the one individual. What is called for, then, is the "transference of the will-life from the human individual, considered as the instruments and ground of values, to the super-human corporate individual." To the author it "appeared that the unsatisfactoriness of practical life lies in just this negative and subjective pluralization of wills, and the attempt is made to find principles of the possibility of an objective or impersonal will as the basis of such order as exists or of any higher degree of order that may be attained."

Thus the body of the work consists in establishing the validity of corporeity as principle. Professor Jordan aims to show that order in the world can not be obtained on the basis of subjectivism. Interest and purpose as mental states can not be the basis of order, for "no organization of subjective phenomena is possible."

At this point the philosophical student will begin to wonder whether this is a new revival of Hegelian or objective idealism. The next few chapters give the answer. Hegelian terminology is not employed. The oneness of the many is worked out in legal terms. The corporation as an individual or person is the striking thing for Professor Jordan. As support for the idea of the unity and embodiment of all persons he relies upon various advanced legal conceptions. For example, he leans on the view that property as something that is exclusively dominated by a single person is a meaningless conception. "Usage has no specialized relation to individual facts." Contract, too, he believes, is a superindividual fact; it is "the law of growth by which undefined purposes develop into adequate means, and on into satisfying ends."

Here is an inevitable ground of order. It is the well-known principle of getting what you want by definition. You do away with clashes of wills by saying that will is corporate; there is only one big will, instead of many little ones. Professor Jordan displays throughout this book a serious interest in and a considerable study of recent legal writings, also a keen critical attitude toward our numerous political and legal superstitions, in addition to a skillful adaptation of such materials to the old philosophical problems of the one and the many. But has he made his point?

Granted that property has nothing to do with individuals or that contracts are superindividual phenomena, what does this mean? Does it mean anything else than that one accepts a particular type of interpretation of property, contract, and other legal (or human) phenomena?

Does the acceptance of this view of property, etc., prove that individuality is corporate? Or does it prove that harmony in human



life can be brought about by a proper organization of relationship between persons, their desires, ambitions, hopes, and the things which they all need and want in common? How are we to get the new laws that we need, the laws, that is to say, that will make property a functional affair, except by bringing to pass a proper harmony of individuals by legislation, socialization, education, etc.?

Can the theory of deindividualization of persons bring about order? Would disharmony in human life disappear if everybody were converted to this view? Would world wars cease or would it no longer be necessary "that one man should live and work for another"? Perhaps the fact that to bring about the proper result, persons will have to agree upon the correctness of the solution, means that it is impossible to overcome their individuality, their uniqueness.

Has not Professor Jordan confused instruments with the things upon which they are to operate? The conception of individuality as corporeity is a tool for operating upon individuals and upon the things for which they contend. The same is true of the notion that property is use, etc. Thus it is only the confusion of a conception or instrument with things which can reduce the many to the one. Professor Jordan is valorously combating an old and admittedly false psychological conception of individuality, one based upon instincts and subjective interests. But to combat a wrong psychological theory or a wrong intellectual tradition does not call for a flight to the refuge of abstractionistic objectivism, but rather to a closer *rapport* with a more scientific psychology.

J. R. KANTOR.

UNIVERSITY OF INDIANA.

## JOURNALS AND NEW BOOKS

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#### NOTES AND NEWS

##### TO THE EDITORS OF THE JOURNAL OF PHILOSOPHY:

On account of a discussion that has arisen in my class in logic, I should like to receive instruction from the logicians (including the instinct-logicians) in regard to the following questions:

A. Are these two statements exact equivalents of each other or are they not?

Not unless it rains do I take an umbrella;

Not unless I do not take an umbrella does it not rain. Show why.

B. Give the exact denials of the following statements:

1. Not unless all Democrats who are registered vote, will any Republican candidates be elected.

2. Unless all Democrats who are registered do not vote, some Republican candidates will not be elected.<sup>1</sup>

Or, if one prefers, this may be done in more abstract terms:

3. Not unless the *a*'s are all *b*'s will any *c* be *d*.

4. Unless no *a*'s are *b*'s, some *c*'s are not *d*'s.

Some of my advisers tell me that it gives them a headache when they try to answer these questions.

CHRISTINE LADD-FRANKLIN.

COLUMBIA UNIVERSITY.

<sup>1</sup> Of course, nonsense propositions are far better for practising logic on than propositions that make sense.



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## THE JOURNAL OF PHILOSOPHY

## A BEHAVIORIST ACCOUNT OF INTELLIGENCE

## I

IN isolating and describing intelligence, we have to take account of four sets of factors: stimulus-patterns, reaction-structures, reaction-patterns, and the word "intelligence" itself as a specifically patterned reaction employed as a means of designating and describing the thing or function meant.

First, is the fact that stimuli are patterned—spatially, temporally, and spatio-temporally. This is the fundamental objective fact that makes differentially adaptive behavior possible.

By saying that our stimulus-patterns are spatial, I refer to the fact that any given object, from any given point of observation, exhibits a spatial outline, form, or pattern. This is true of objects as wholes; it is true of different subordinate features presented to view. A house presents a general, gross pattern; its sides, roof, windows, doors, the subordinate features of the parts, present each its own spatial pattern in any given perspective. By temporal pattern, I refer to the fact that the stimuli of our several sense organs or receptors differ in their frequency or periodicity. By spatio-temporal pattern, I refer to the fact that objects and their several spatial patterns persist with more or less regularity, continuing to afford the temporal patterns of stimuli characteristic of their own nature and whatever medium happens to intervene between us and them. Also, moving objects, and objects that appear to be moving, because of our own changing of position, exhibit a space-time figure or pattern.

It is important to note that we do not have to learn a different pattern of adaptive behavior for every different object. Objects fall into classes; and, within certain limits, behavior suitable to one object of a class is suitable for others also of that class. So it is that we have been able to devise class designations, distinctive combining responses, which serve as valid substitutes, in thought and social communication, for their respective designates, both in groups and as individuals. We may note also the principle by which objects and subordinate features of them—in other words, stimulus-patterns—fall into classes. This would seem to be some principle of statistical homology. By "statistical homology" I mean that measurement and ranking of stimulus-patterns of any given kind will show that they conform to a normal curve. It is apparently by virtue of this fact



of natural conformity to a normal curve that objects as wholes, and subordinate features of them as well, fall into groups or classes designable by class names. This is apparently the fact that makes an habitual adaptation to one of a class of facts available for others of that class. It apparently indicates also the range within which such adaptation is safe or valid.

Second, is the apparent fact of statistical homology in every item of the receptive, connective, and reactive apparatus involved in every reaction-structure homologous among any given class of animals. This postulate of statistical homology applies to the several homologous structures of any given kind of animal; it applies also to the numbers, magnitudes, and forms of the several anatomical elements, or cells, of which homologous structures are comprised. It applies to their capacity for what I may call "reach," or magnitude of reaction; for vigor or intensity of reaction; and for mutual organization among themselves. It applies to capacity for tonus among the several sets of muscular effectors, which is capacity for "attitude," "set," "urge," "readiness," or motivation. It applies to relative intensity, frequency, and excellence of motivation, both required and actually received, for any given pattern of behavior, in response to any given stimulus-pattern.

This fact of statistical homology, in kind, amount, and excellence of motivation, is an overlooked factor behind all the intelligence scores that we get by use of standard tests. In other words, it is unfair to the subject to lay upon his heredity all the blame or credit for intelligence scores, by innocently presuming that he and all the other subjects have been equally well motivated and practised for every kind of situation, and for every kind of behavior tested in relation thereto. This being the case, it would be a wicked and inhuman thing for the teaching profession to treat its pupils and students as so many exhibitors of so many different I.Q.'s. We are bound to afford the best situations possible, in the matter of motivation as well as in that of objective materials to work with, upon which the current product of heredity, of already previous motivation, and of previous practice, may work. Even college and university have a responsibility here. They must be sensitive to the problem of technique of motivation in order to supplement and supplant the more or less inadequate motivation to which their students have been previously accustomed. They can not afford innocently to evade or ignore the problem of motivation for study and for living, not, at least, until they have turned out a generation of teachers and parents with appropriate techniques for such work.

Third, is the fact that every reaction executes a space-time pattern—a pattern that generates a certain spatial figure and that re-



quires a certain interval of time for its execution. To this we may add that the structures themselves that describe this pattern have a patterned distribution or arrangement, differing and changing, of course, with the posture of the agent, and with the course of the reaction. Acts as well as objects are patterned. Differences of pattern are the fundamental intelligible fact of behavior as well as of the objects to which adaptation is effected.

Fourth, is the pattern of the word "intelligence" itself, and the history of its origin as a designative term for a specific aspect of behavior. Save perhaps in cases of onomatopoeic words, simple root words are not likely to have ticketed upon them any evidence of the process of their creation, or of the particular aspect of the object or act that they were intended to designate. But it is different with the compounding of native words, and with the borrowing and compounding of alien words. The moment of thus compounding or appropriating a word as a means of designating a newly isolated fact of experience is often a highly revelatory and significant fact in the history of thought about that kind of fact. So it is with our word "intelligence" and the kind of fact that it was coined to designate. While *any* vocal gesture not otherwise pre-empted *might have been employed* for this purpose, yet the fact that the word is a compound of already current and meaningful words helps us to discern what was the nature of the fact that the creator of the word had isolated and was seeking to designate. Knowledge of that significant moment, as its nature is revealed by the form of the word itself, helps us to discern whatever of historical continuity there is in the use of the word, and perhaps to check up on our own more or less vacillating and unspecific uses of it.

## II

With such reflections "in mind," we might proceed by translating the word "intelligence" by our native word, understanding, and by then trying to define "understanding." But this word is genetically more highly figurative than "intelligence." It does not reveal what it is that is supposed to do the "standing," nor what it is that this thing stands "under." But it appears not to have originated as *understanding*, as we enunciate it, but as *understand*-ing. In the first instance, the verbal element, *stand*, was transitive, not neuter. Accordingly, to *understand* was originally to stand something under one's feet; the thing *understood* was something stood beneath his feet. Thence the act of *understanding* was that of getting something under one's feet, as a basis for further advance; and thence the "mental" act of *understanding* was that of getting a foundation under one's "mental" feet. This interpretation is



highly suggestive of the function of understanding, but not of its real nature. But our definition by this procedure would conclude with a figure of speech rather than with an accurate scientific description of what actually goes on in exhibitions of intelligence. The implication of use of a figure of speech is that the user and his hearer or reader already understand at least the thing used figuratively by way of allusion and illustration. In the use of such figures in our psychological and philosophical tradition, the exact reverse is commonly true. In original ignorance of the thing actually referred to, we have used animistic figures of speech in the effort to illumine, and then further figures to shed light upon the attempted illumination; all of which has only served the further to darken counsel. Only as we have turned aside from this verbalistic tradition, or gone behind the figures, to see what it was that actually prompted them, have we made real progress in understanding. And then the figures have generally so ceased from having any significant meaning that we have dropped them altogether. Our science of psychology and the processes of education, supposedly guided by its findings, can no longer afford to rest upon figures of speech. Or, perhaps, rather, as Pepper suggests, it must continually create new figures, more highly relevant to the better discerned pattern of the facts which it is trying to make intelligible, in the interest of improved use and adaptation.<sup>1</sup>

Neither can it afford to rest upon dictionary definitions—until scientific definitions have got into the dictionary. We must differentiate between two kinds of definition. First, the traditional dictionary or verbal definition, in which one set of words is substituted for another of more or less equivalent "meaning." Second, a type of definition which defines or delimits the range of facts to which the defining word or phrase serves as a definitely patterned response, a more or less descriptive designation, and one which may be used substitutionally, in thought and social communication, for that range of facts.

This means that the term "meaning" itself requires such definition. The "meaning" of an object is the complex of acts which that object itself has come to evoke from an agent as modes of successful adaptation. It is not a chain of words, save as these are *experienced substitutes* for the several acts of that complex. A traditionally correct verbal reaction may be an adequately adaptive reaction for the purpose of social converse. But the person able to make such correctly abstract reactions and adaptations is not necessarily capable of adaptation to the things designated by his correctly verbal reac-

<sup>1</sup> Stephen C. Pepper "Philosophy and Metaphor," this JOURNAL, Vol. XXV, pp. 130-132 (1928).



tions. An object that we have learned to perceive suggests, points to, means—and hence prompts to—the set of reactions by which we have learned to adapt ourselves to it. Adequate meanings of words are these sets of reactions that their objective designates mean. “Mean,” our English verb, is derived from the Anglo-Saxon *maenan*, “to point to.” As a perceived object means, points to, or prompts to the set of adaptive acts which we have learned to perform in relation to it, so does the perceived name or verbal designation of the object “mean” this same set of adaptive reactions. As a mere meaning, a moment in the act of perceiving, this set of adaptive acts, or any one of them, is performed only implicitly. A stimulus-pattern, as perceived, *means* one or more of such adaptive acts, which may or may not be overtly performed; and such an adaptive act itself *means*, in the same way, the act of adaptation to the consequences of this act—which also are experienced as meanings, and not as objectively present realities.<sup>2</sup>

The word “intelligence” comes from the compound Latin verb *intellegerere*: *inter* (between, among) plus *legere* (to pick, to choose, and, in the literary period, to read). *Intellegerere*, to behave intelligently—or understandingly—is to pick or choose between or among situations or stimuli, by picking or choosing between or among their meanings. We might then define “intelligence” off-hand as a word used to designate the fact of recognizing differences and acting accordingly. Objectively, such differential behavior is possible because the stimuli among which an animal picks or chooses are differently patterned, each kind of pattern exhibiting a statistical homology as to form, magnitude, and intensity. This fact of differential stimulus-patterns is just as true of adaptive acts, even though performed implicitly, as meanings, as it is of external objects. Subjectively, such differential behavior is possible because the animal has a brain—an organ of differential connection, or differential gear-shift, intervening between receptors and effectors located respectively in different parts of its body.

### III

Etymologically and psychologically, then, to behave intelligently is, primarily, to pick or choose among differently patterned stimuli; secondarily, it is to pick or choose among differently patterned meanings. In both cases it is to react differentially to differently patterned stimuli, but not to react indiscriminately differentially. It is to react consistently differentially. That is, to behave intelligently implies memory, in the continuous sense of “remembrance”—a per-

<sup>2</sup> My introduction to the nature and importance of “meanings” I owe to John Dewey’s writings; e.g., *How We Think* (Boston, 1910), *Essays in Experimental Logic* (Chicago, 1916), and *Experience and Nature* (Chicago, 1926).



sistence of structure-organizations effected by previous successes and failures; failures that were not fatal and that hence, through the organization-effects that they have left, have a value for directing further behavior.

In large part these structure-organizations may be thought of as being synaptic in character. They are Thorndike's "bonds." But these bonds are not to be regarded as Stimulus-Response—S-R—bonds, but rather as Receptor-Effector—R-E—bonds.<sup>3</sup> In case we try to think of them as "S-R bonds," seeing that the stimulus and the end-response occur at different instants, we may have some difficulty in fitting the term "bond" to the conception of a temporal sequence. Of course, there is the nervous current intervening between the occurrence of the stimulus and the muscular or glandular release that constitutes the response. But it is not a spatially continuous connection, any more than is an electric wave, passing over a telegraph wire; and this latter is certainly not thought of as a "bond" between sender and receiver, as is the physical conductor. But as between receptor and effector there is a real physical continuity, in so far as electronic theory permits us to think of such a continuity. The term "bond" fits this latter aspect of the case; it does not fit the other. The memory—remembrance—involved in intelligence, as elsewhere, consists conspicuously in the persistence of the intercellular organizations that differentially take place according to the patterns of stimuli and responses. To put the matter in another way, then, to behave intelligently is to behave adaptively, in the light of previous experience. Through this fact of memory, intelligence exhibits a "temporal dimension" in relation to the past. This, to be sure, is a figurative illustration, but it seems to pass the test for illumination.

#### IV

Through the fact that consistently differential behavior involves a more or less permanent persistence of structure-organizations, and through the fact that more precise adaptation is always possible, intelligent behavior manifests growth in precision and in range of details. These structure-organizations, or possessive memories, accumulate at a higher or lower rate according as they are more or less readily and rapidly effected, upon the hereditary basis and with better or poorer motivation and practice relative to it. Their possible rate of accumulation may be in some way correlative with this raw hereditary capital, but we should never forget for a moment that

<sup>3</sup> E.g., *The Original Nature of Man* (New York, 1923), pp. 6-9, and elsewhere; and his *Psychology of Learning* (New York, 1921), p. 1 and *passim*. He often uses the word "connection" instead of "bond"; the criticism applies here also.



at any given time the accumulation has been affected by motivation. An animal—even an oyster—can seek the stimuli to which it will respond. This seeking probably consists in a present condition of tonus in the muscular structures—primarily and most particularly the autonomic—that will make the consummatory response to the stimulus, when this is come upon.

The animal's act of seeking still further sensitizes it—makes it more highly receptive—to the kinds of stimuli necessary to the consummatory reaction, and to refinements in their details. We usually find what we are looking for, if we look long enough, and we are more likely to find if we are seeking. If a child's educational motivation, by conditioning him to negative, prohibitive stimuli, has actually insensitized him to certain kinds and ranges of stimulus-pattern, the fact that he is not intelligent in relation to them is not to be imputed to inheritance or raw native capacity. Growth in intelligence is dependent upon motivation as well as upon growth of raw capacity, if such a thing can be imaginatively or theoretically isolated, as it can not physically and perceptually. This native growth itself is conditioned by the kind of motivation that the child has had. The motivating factor of educational situations is the fundamental one, even after the subject has learned to motivate himself, well or poorly, according to the relative excellence of motivating experience that he has had. Just as hunger, or feeding-motivation, normally precedes eating, so does normal and healthful education proceed upon a basis of prior motivation. Technique of motivation is the greatest need of current education, to give native intellectual capacity the chance for development that it deserves, and to provide the best possible motives for its use.

## V

But to behave adaptively in any other sense than immediately to the spatially spread situation implies a readiness for more or less immediately future contingencies, and even a prevision of them. That is, it implies an ability to experience meanings, and meanings of meanings. A successful intelligence thus exhibits its temporal dimension also in relation to the future—the greater, the higher the intelligence. Or perhaps we had better rate separately the spatial and temporal “dimensions” of intelligence. Some persons with a high aptitude for immediate social adaptation seem to rate low in ability to take account of consequences—meanings, and meanings of meanings; and perhaps the converse is true. At any rate, to behave intelligently and hence adaptively implies such a caring for consequences as to make adaptation worth while. Human intelligence, chiefly through the fact of language, exhibits this temporal dimension in a much higher degree than does that of any lower animal.



Through this fact of language, man has a set of respectively patterned substitutes for original situations or stimulus-patterns, to which he can react as to those originals themselves. In this way he can immediately exhibit, either explicitly or implicitly, the reactions found appropriate to those original situations, even in their spatial and temporal absence. Thus also, with these reactions as stimuli, he can react to them in turn and thus discern the consequences of these further reactions, and can pick and choose among them the ones most desirable to be made explicitly at the proper time. Any experience that he has had he can rehearse or dramatize with variations in that inner medium of implicit behavior which constitutes thought. This inner dramatizing and trying out he can either revoke and not exhibit in overt behavior, or he can enact it overtly and enjoy or suffer the consequences. In this way he can enter into the experiences of all sorts and conditions of men. He can thus widen the range of his human understanding and sympathies; and thus he can further humanize himself, living his life on a world-wide and world-deep stage of space and time. He can anticipate and forestall the occurrence of undesirable consequences, by removing or modifying their conditions. He can maintain or contrive the situations that will evoke the desirable. But whether his stimuli be external to him or whether they be his own reactions, their distinguishing characteristic is that of pattern, and his intelligence consists in the fact of his picking and choosing and reacting differentially among them.

Human intelligence, then, is manifested in man's reacting adaptively in relation to situations both present and absent, in point of both space and time. Human intelligence can anticipatively take account of consequences, and of the consequences of consequences. It can take care that there will be humanly valuable consequences to be taken account of, and the desirable kind of human beings as consequences to take account of them. It can do all this, the most natural thing in the world for it to do; but thus far in its history it has been too much engrossed with problems of immediate adaptation to discover its own true function.

## VI

Thus it is important to note that this process of adaptation makes a demand for future consistency as well as for consistency with the past. Consistency with the past consists in the mechanical fact of memory. But intelligent consistency of adaptation has reference to the future, a consistency with the demands of life, a consistency with regard to life-spelling consequences. It may be the utmost folly to try to keep one's present and future consistent with his past, and so it is with social effort to maintain a tradition or an institution. The



primarily intelligent question to ask regarding any practice, tradition, or institution is, How does its maintenance in its present form seem to help in spelling a continuance of the life process of the species?

The actual authorities or sanctions for the life of the race are not to be found in the thoughts and records of the past. They are to be found in the pressure of the individuated or discriminated problems whose solution spells assurance of a continued life of the group, but fundamentally of the race. Real authority is an accepted responsibility for consequences. It is by this that we are authorized to go ahead with the job. Only as personal and institutional authorships of the past serve as instrumentalities for assuring our own desired consequences do we accept them at all as authorities. We differ in our acceptance of historical pronouncements as authorities, because our problems and accepted responsibilities are different, requiring correspondingly different instrumentalities for their solutions and fulfilments. But there is one problem in which it would be natural for all men to agree, could they but free themselves from the bonds of immediacy, and that is the problem of achieving assurance for a continuance of the racial life. Only by keeping our eye upon this supreme human problem can we discern true from false problems—and true from false “authorities”—and secure for all individuals what is rightfully theirs as members of the race. Intelligent responsibility is responsibility for human life-consequences, not for a perpetuation of specific instrumentalities. The kind of job to be done determines the form of tool for the work. Function determines form. “There is a discipline for ideas as well as for persons,” says Professor C. H. Cooley, “and every thought is harmful that is not kept in order by a larger thought.”<sup>4</sup> Is not this thought of the racial life, and of the effect of consequences upon the racial life, that “larger thought” necessary for the discipline not only of lesser ideas but of persons—and of social and political groups—as well? The race has not been wrong in setting a supreme value upon intelligence, but it has seldom seen wherein its value lay. Indeed the current hold-over of “fundamentalism” is evidence of a lingering lack of faith both in intelligence and in man.

We are now in a position to give a more precise definition of intelligence, and of several other processes intimately related to it.

“Intelligence” is a term used to designate the fact of behaving adaptively. We must beware of trying to define it in terms of the unknowns, “ability” and “capacity,” which can only be inferred from the observed facts of differential adaptation. And we must further be on our guard against employing these inferred unknowns

<sup>4</sup> *Life and the Student*, (New York, 1927), p. 218.



as a predestined fixity, that can not be affected by changed motivation. If adaptive behavior itself can be changed and improved, then so can capacity, in any sense in which we may justifiably employ this term. We have a right to infer that one's reach may possibly exceed his present grasp, but not that it is less, and it is impossible precisely to predict the effect of improved motivation. The fatalistic, Calvinistic manipulation of the concept of "capacity," by our intelligence-testing statisticians, is apparently an "innocent" but mischievous hold-over in "science" from its theological grandmother.

## VII

Perception is an exhibition of intelligence. Here again etymology is suggestive. The word "perception" is derived from the Latin *per* (through, thoroughly) plus *capere* (to catch, to grasp, to take). The old Roman who first isolated the process sufficiently to feel a demand for a designating word apparently intended by this word to indicate that a stimulus-pattern was thoroughly isolated, caught, taken in—of course as a condition of adequately differential reaction and adaptation. But perception, for the human being, involves more than the isolation, individuation, or "cutting out" of stimulus-patterns. Normally, perception is a three-step process.

First, is an already active background of tension or tonus, out of which the definitely perceptual act emerges. This temporal background consists in an attitude, disposition, set, urge, drive, demand, wish, or tension—tonus—for a given kind of consummatory end reaction, and hence for some kind of stimulus-pattern that has become conditional to this reaction. This is the initial end of a consummatory act already in process, but whose terminal end is dependent upon a particular sort of a stimulus, and hence upon a projicient activity necessary to secure this stimulus. This initial end of the consummatory act is the work of one or another segment of the autonomic apparatus, the same segment that will be primarily concerned in the terminal end of the act. It serves as a demand upon the projicient apparatus for bringing the animal upon the stimulus that will release the implicit action of this segment into explicitness as the terminal end of the act. In this initial end of a consummatory act, at once the initial step of a normal act of perception, the pattern of the terminal end of the consummatory act is already laid down, in a patterned tonus of the autonomic apparatus. In this anticipatory set of the organism, constituting the initial end of the act, we are to discern the actuality of the Freudian wish; also the way in which the *Gestalt* theory finds the response participating in its own production.

If we include with this initial action of the autonomic segment



the response of the projicient apparatus in helping this segment to "seek" the stimulus necessary to release its tension, in the terminal end of the act, then the second step of a normal perceptual act consists in isolating or individuating that necessary stimulus-pattern from among the many others in which it is involved. Among those lower animals that have not developed any sort of language substitutes for objects and actions, nor ability for implicit performance as substitutional meanings for explicit acts, this second step constitutes the really perceptual act. For such animals it consists in an individuating of the stimulus-pattern upon which the terminal end of some consummatory act, then implicitly in process, will follow.

But for the human being, most stimulus-patterns have more than one meaning, especially in their larger settings. Hence the third step in perception, an occurrence of meanings, among which selection may be effected for the business in hand. The act of picking and selecting among meanings is temporally beyond the perceptual act proper. It belongs to the sphere of thought, for which perception furnishes the data: first, distinct stimulus-patterns, and secondly, meanings, which, as responses, are subjective stimulus-patterns. For the human being, it is not enough to isolate the objective stimulus-pattern. He demands to know what this pattern means, in terms of behavior. The earliest intellectual question of the infant is "What's that?" Here he is inquiring for the appropriate verbal response for purposes of social converse. But soon he finds that this is not sufficient. He must adapt himself to other things than his fellows. His next intellectual question is, "What's that for?" Here he is beginning to ask for social help in the getting of meanings for his own personal operations and adaptations. Hereafter an act of perception is not complete for him until one or more meanings, operational rather than verbal, "arise," in response to his individuating of stimulus-patterns. This "arising" of meanings—implicit performance of already learned operative, adaptive, projicient reactions—constitutes the third and concluding step of a normal act of human perception.

Perception, then, is the intellectual process or act by which stimulus-patterns are individuated and their meanings evoked. A percept is a particular instance of this kind of behavior, and is preliminary to selection among the meanings thus evoked or experienced. Perception, perceiving, is the intellectual or differentiating behavior upon the basis of which preliminary or provisional, rational adaptation to our objective situations is effected. This rational or mental phase of adaptation is a process of implicit dramatization and selection among the meanings of perceived stimulus-patterns.



## VIII

An idea is a meaning. It is an implicit action of a reaction-structure by which an operation or adaptation is effected.<sup>5</sup> And its occurrence may serve as a stimulus to generate or release other idea-reactions, as inferences. Where is an idea when it is not occurring or being experienced? It simply is not. An idea as a persistent thing or possession can be nothing other than the structure-organization through which the idea as event is effected. This means that we should not think of ideas as having existential, but only eventual or occurrential status. We do not "have" ideas, we execute or perform them. On the other hand, the structures through which they are effected are existential in status. They are persistent, space-time realities, conforming to the laws of use and disuse.

We should distinguish between ideas and images. An image, in the absence of the stimulus-pattern seen, heard, etc., is the act of focusing or adjusting a receptor apparatus, in response to some substitute stimulus, for perceiving just that stimulus-pattern. Such an act sensitizes or makes more highly receptive the apparatus thus adjusted, for the kind of stimulus-pattern for which it is substitutionally adjusted. It apparently also gives the adaptive projicient apparatus a heightened tonus for receiving currents set up in the receptor. It is quite possible that this sensitizing of an organism for its stimuli is a matter of adaptation in the muscular effectors, both of the receptor apparatus and of the projicient, and not any sort of change in the actually sensory or receptive substances. But that is another story. An image, being a reaction, can serve as stimulus to evoke another reaction, just as can an idea; and thus it can participate efficaciously in a process of adaptation. It is important to note also that adaptation, as applying to the projicient apparatus, is a matter of procuring stimuli for the autonomic apparatus. But this also is another story.

Ideas—and images—are differentiated from each other in the same way as external objects, by virtue of differences of pattern among the reactions that they are. It would be wholly proper to say that we perceive images—and ideas, which are implicit reactions. The patterns that they exhibit, in so far as these are patterned conditions of further differential behavior, are not those of synaptic distribution in the brain and nervous system. Rather, they are patterns of distribution of muscle cells involved in the ideational and imaginal reaction. In a considerable measure, verbal reactions substitute for more pervasive ones; as such, they are a great economy of time and effort. Yet along with them, let the slightest inhibition,

<sup>5</sup> This conception of ideas as being "operational" I owe to P. W. Bridgman's *The Logic of Modern Physics* (New York, 1927), Chapter I.



doubt, or inadequacy arise, go these more pervasive dramatizing reactions, implicitly performed, that are the meanings of the verbal reactions being made. In really familiar and habitual thought, the implicit verbal reactions alone may constitute the idea; yet always there is in abeyance an accompanying stream of these implicit dramatizings of the behavior meant by the words. We do not think with the brain alone, but with the whole body, and only the proximity of the speech mechanisms and the ocular adjustors—in particular—to the brain has permitted the mythical transfer of the old soul-idea of thought to the brain. The notion of "central processes" and of "centrally aroused" nervous currents appears to be a piece of twentieth-century myth masquerading as science.

So far as we can discern, there are no receptors within the brain, including the cortex, save as one neuron is recipient to an agitation transmitted by one adjacent. Otherwise than this there are no receptors inside the brain, nor access of stimuli to act upon them—save changed blood-pressure, which may serve as a rather pervasive stimulus and hence evoke a rather unspecific response as to its location and extent. Nor are there any effectors within the brain, save the pineal gland and the pituitary body, whose effects are distributed by the blood-stream. Again, no nervous current that we can ever know about ever dies down or peters out within the brain; for to know about it, or about its stimulus, would be to make a response to it, through some effector outside the brain. For us human beings, this effector is characteristically the speech apparatus. But any stimulus or nervous current sufficient to set off the speech apparatus is adequate to evoke some other form of response, as our repertory of gesture and the sign language of the deaf testify. The fact is that we must reconcile ourselves to considering the brain as but an inconceivably complex apparatus of differential connection or gear-shift between receptors and effectors variously distributed throughout the body. When some one begins to specify verifiably any other function for the brain, then it will be time to begin to regard it scientifically in some other light than this.

All this will sound strange to those who are accustomed to thinking of percepts and ideas, through which intelligence carries on, as being constituted, respectively, of more and of less vivid clusters of "sensations." Here we have a need of a redefinition of sensation. By any definition of the term "sensation" that I have ever seen, a sensation was an entity that could in no way serve as a stimulus to any receptor or other organic substance. Hence it could in no way serve as an occasion for a change in behavior. It could in no way be even designated, to say nothing of being described, seeing that either a description or a designation is a response to a situation. The



first obvious conclusion to draw here, is that those who have been trying to carry through the sensationalistic or "qualitative" theory of consciousness and thought have been responding to efficacious stimuli, in their talk about sensation and consciousness, but stimuli that they were overlooking, because of the spiritualistic slant that tradition had given them. A second conclusion is that if we can think or talk at all about "sensation" or "conscious quality," it is possible to bring out into the open the facts actually talked about and to describe them in objective terms. I believe that this can be done and that I can point the way to so doing, but such attempt must be reserved to some future occasion.

ORLAND O. NORRIS.

MICHIGAN STATE NORMAL COLLEGE.

### BOOK REVIEWS

*The Evolution of Scientific Thought from Newton to Einstein.* A D'ABRO. New York: Boni and Liveright. 1927. Pp. xx + 544.

It has been the discovery of many who have courageously undertaken the task of self-education in the theory of relativity that the extant popular and semi-popular books upon the subject are notoriously bad. Most of these enthusiasts have found to their dismay that practically all of the knowledge acquired through the elementary books had to be promptly unlearned before the more advanced, technical treatises could be comprehended. The so-called introductions to the theory proved to have been either definitely false, or else so misleading as to be valueless. Thus there has been a long felt need for an elementary text upon the theory of relativity which will combine the clarity and lucidity of a popular presentation with the authority and precision of a scientific treatise.

Mr. D'Abro's contribution to the philosophy of science satisfies this need admirably. Here at last we have a book on relativity which is thoroughly good—a comprehensive survey of the special and general theories, accurate to a surprising degree, yet couched in non-technical language, and involving a very minimum of mathematics. The whole book is characterized by an ease of presentation and an unassailable style. The frequent repetitions for which the author finds it necessary to apologize never seem to burden the text; each repetition, in fact, and each new example seems to make its distinct contribution to the clarity of the whole. Frequent and very pertinent references to scientific method are interspersed in the theoretical discussion, and serve to throw interesting sidelights on the



logical aspect of the subject (75, chap. II, 210, 228, 373-473, 477). The division of the book into parts and chapters with topical headings enables one to follow the course of the argument with great ease.

Although the title suggests historical growth rather than logical continuity of development, it is the latter with which Mr. D'Abro is concerned. The book is divided into four parts: Pre-relativity Physics, The Special Theory of Relativity, the General Theory of Relativity, and the Methodology of Science. In the first three parts "the essential features of Newton's great discoveries, the apparent inevitableness of absolute space and time in classical science, are passed in review. Then we come to Riemann, that great mathematician who wrested the problem of space from the dogmatic slumber where it had rested so long. Finally we see how Einstein succeeded in transporting to the realm of physics the ideas that Riemann had propounded, giving us thereby that supreme achievement of modern thought, the theory of relativity" (v). High points in the discussion are the author's treatment of non-Euclidean geometries and their relation to relativity (chaps. III, V), the various problems which arise in connection with the failure to differentiate between geometrical space and physical space (chap IV), the many meanings of the term "relativity" and the sense in which even the Newtonian science was relativistic (chaps. VIII, IX, X), the finiteness of the universe (chap. XXXIV).

The analysis of scientific method (Part IV, and especially chap. XXXVIII) was, from the point of view of my own personal interests, the most valuable aspect of the book. When a scientist, particularly a philosophically-minded scientist, writes upon method, something significant usually results. What the chapter lacks in structure (it is one hundred pages long and without subdivisions or subcaption of any kind) is compensated for by the pertinence of what is said. The author discusses such topics as the following: the methodological differences between science and philosophy (373-385), what is meant by saying that science is a world of constructs arrived at as a result of a synthesis of sense impressions (385-405), the place of mathematics and quantitative conceptions in a qualitative world (405-426), the nature of scientific explanation (426-434), the uniformity of nature and other principles of science (434-438), how scientific advance is always the result of the pressure of facts (438-473).

A book of this kind would be hardly complete were there not occasional flings at philosophers and the philosophical method. Mr. D'Abro lives up to tradition in this respect. But he makes a mistake in supposing that the particular type of philosophy which he is attacking is to be identified with philosophy in general. It is per-



missible to condemn the metaphysician "for deducing [does he mean *inducing*?] his knowledge from the crudest facts of daily experience" when the scientist bases his "deductions [again?] on extremely accurate observations embracing all the phenomena known to science" (384). But this is obviously only one type of metaphysics, and a type which is generally recognized to be more or less a thing of the past. There are bad philosophers, of course, and there are bad scientists, but one does not fairly measure either discipline by its poor samples. Nor does it follow that science has a monopoly upon accurate and certain knowledge, and that "whatever transcends the sphere of special sciences transcends it precisely because it is vague and only dimly apprehended" (384). Certainly this is the last place in which the author should be dogmatic, for one can not condemn philosophy by making philosophical statements. The author's entire chapter on method is, in fact, concerned with a subject-matter which "transcends the sphere of the special sciences," and is therefore philosophy, but it has all the marks, I should say, of being quite other than "vague and dimly apprehended." The philosophy of science is obviously not science, but is it therefore illegitimate?

The author is to be congratulated on having emphasized the empirical nature of the theory of relativity (206-211, 228). There has been a tendency in recent years to insist that relativity is purely a mathematical theory, and simply a system expressing a formal possibility. With this position Mr. D'Abro disagrees. "Thus, whereas in mathematics we may postulate anything we please (with certain reservations) and then proceed to reach our conclusions deductively, in physics this procedure is impossible. We must take our cue from experiment and formulate our premises accordingly" (210). This difference is clearly illustrated in the matter of definition. "Take a number like  $\pi$  in mathematics. We can define it as the ratio of the length of a circumference to its diameter in Euclidean geometry: Without performing physical measurements, we can deduce from this definition by purely mathematical means, the precise value of  $\pi$  to any order of approximation. . . . On the other hand, try to give a physical definition by some similar method—say, the definition of the 'gram' or of the 'dyne.' The purely logical type of definition breaks down, and we are compelled to resort to physical determinations" (210). "As for the theory of relativity, it is one of physics; it does not claim or aspire to be anything else" (211).

While agreeing with this distinction in its main outlines, I feel that Mr. D'Abro has introduced an artificially sharp line of demarcation between mathematics and physics. A purely logical definition is, after all, only an empirical definition whose elements have become inter-related into a conceptual system. The logical



definition is still empirical, but it is logical as well. Every concept is an abstraction from facts; in some concepts the abstraction is at a minimum and the concepts are therefore somewhat pictorial in nature; in others the abstraction is at a maximum and the concepts are hence less pictorial. But as abstraction increases other tendencies are at work. Chief among these is the organization and inter-relation of concepts into a deductive system. Thus a concept which involves a high degree of abstraction becomes inserted as an element in a conceptual system, and its truth is henceforth determined rather by its relations to other concepts in the system, than by the accuracy with which it describes facts. But it has not thereby ceased entirely to be descriptive; it is still pictorial of the events from which it was derived. Now the concepts of physics are obviously less abstractive than the concepts of mathematics, and the systematic inter-relation of concepts is therefore, in the former field, not so far advanced as in the latter. But to say that physics is empirical and not rational, and that mathematics is rational and not empirical, neglects entirely the fact that the rational is continuous with the empirical. Mr. D'Abro's example is easily explained from this point of view; one has only to re-word the definition of  $\pi$  so as to indicate its empirical nature, viz., if you measure the circumference and the diameter of any circle and divide the former by the latter, you will obtain a value which is approximately  $\pi$ . This definition obviously involves physical measurements. The fact that we are unable to give a logical definition of "gram" is not due to an inherent limitation in the nature of the concept; it is due simply to our own ignorance. Some day, when our knowledge of chemistry is more advanced, we may be able to pass by purely logical processes from the nature of distilled water to its necessary weight under certain conditions of temperature and pressure. Chemistry will then become rational, but it will not cease to be empirical.

A. CORNELIUS BENJAMIN.

UNIVERSITY OF ILLINOIS.

*L'Ame Primitive*.<sup>1</sup> LUCIEN LÉVY-BRUHL. (Bibliothèque de Philosophie Contemporaine.) Paris: Félix Alcan. 1927. Pp. 307.

This third and latest book by Professor Lévy-Bruhl is not, as had been generally supposed when the title was announced, a consideration of his favorite thesis applied specifically to the religious realm. The "soul" here considered is not a religious concept, but the spirit of man, its relation to the social conventions of the group, its boundaries of personality, its fate at death. The subject-matter

<sup>1</sup> *The "Soul" of the Primitive*. Authorized translation by Lilian A. Clare. New York: Macmillan Co. 1928. 351 pp.



includes consideration of the functions of the clan in marriage and blood revenge, the external soul, witchcraft against enemies, and, for half the bulk of the book, theories and practices centering about death.

There is in *L'Ame Primitive* a maximum of concrete material and a minimum of comment. In contrast to his two preceding books, Professor Lévy-Bruhl no longer insists on the contrast between the "completely rational" motivations of our own civilization and the pre-rational theories and representations of the primitive. Nor is he using as formerly his favorite term of "collective representations" for which "cultural traits" seems to be by this time a more definitive designation and in wider use. He has concentrated here on his third thesis of "mystic participation," that is, that the primitive mind does not delimit its subject-matter, but confuses it with a vast periphery which it is the function of this book to illustrate.

This thesis takes the form for Professor Lévy-Bruhl of an insistence on the identity, for the primitive, of object and symbol. When the wax image of one's enemy is melted with incantations before the fire, the primitive believes literally it is the body of his enemy; when the lock of the child's hair is buried under the floor to keep him from running away, the hair is the child, who is thereafter confined by definition. The bulk of the book is concerned with examples of this technique. For it is the testimony of a host of excellent observers that procedures of this sort are technique, and by no means imply that the native can make no distinction between the symbol and that which is symbolized. It is rather that just as we believe in a technique of the eradication of the cause, let us say, in disease, primitive man believes in a technique of analogy. "Like cures like" is his firm reliance. These analogies are the invariable techniques of magic, and are often categorized, but primitive medicine men are not therefore in doubt of the essential separateness of the two terms of their syllogism. Emotionally they may be able to drain off much excess emotion by behaving as if one were equivalent to the other, but the very foundations of magical procedure require a certain clear-headed distinction. It is not so much a case of mystical confusion as of a definite technical basis for procedure, immemorially accepted, and acted upon with matter-of-fact precision.

There is a further reason why this thesis of mystic participation seems insufficient. It is based obviously on the old associationalist psychology which regarded it as a matter of note that ideas should be illogically related to one another in the human brain. It is still this amazement that Professor Lévy-Bruhl is documenting in all his books, and he has not passed on, as modern psychology and the modern novel have, to ask further, what are the types of irrational



association? Can they be particularized? Do the various types they assume help us toward understanding the person or peoples of whom they are characteristic?

Professor Lévy-Bruhl in all his books has cleared the way for further research by his insistence on the irrationality of human procedure, and in his latest book it is noteworthy that he has further contributed by omitting our own civilization as the shining exception to this rule. But each generation has its own problems; for the present one, the form in which his problem is phrased seems too generalized, appears to stop short of the fruitful analysis, to be handicapped for lack of more rigorous psychological categories. It seems possible to study human irrationalities thrown large on the screen in the group behavior of isolated peoples, and the technique seems to call for the same careful differentiation of cultures, and the same large consideration of the total psychological complex as in the study of individual differences. If ever this end is attained in the study of primitive material, it may well be to such anthropologists as Tylor and Professor Lévy-Bruhl that such workers will feel themselves most closely related, scholars whose ineradicable emotion has been always amazement in the face of the irrationality of the material with which they were confronted.

RUTH BENEDICT.

COLUMBIA UNIVERSITY.

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### JOURNALS AND NEW BOOKS

BULLETIN DE LA SOCIÉTÉ FRANÇAISE DE PHILOSOPHIE. 27<sup>e</sup> Année, No. 5. L'Ordre Coopératif. Thèse: *Bernard Lavergne*. Discussion: *Ch. Andler, G. Belot, A. Berthod, M. Croiset, E. Halévy, G. Lévy, Oualid, R. Picard, Rogrigues*.

ANNALEN DER PHILOSOPHIE. Band VII. Heft 7 u. 8. Gemüts-  
 erregungen und Empfindungsgefühle: *J. K. v. Hoesslin*. Psycholo-  
 gische Deutung des Ursachenbegriffs und der Zahlenbegriffe: *Her-  
 mann Triepel*. Atomismus und Kontinuumslehre: *Rudolf Bojan-  
 ovsky*. Die biologische Gewissheit des Individualistischen: *Martin  
 Loesche*. Zielstrebigkeit?: *Paul Quittel*. Reichen die üblichen syl-  
 logistischen Regeln für das Schliessen in der positiven Logik ele-  
 mentarer Sätze aus?: *P. Hertz*.

RIVISTA DI FILOSOFIA. Anno XIX. N. 4. La morte dell'Eros:  
*G. Rensi*. La Fenomenologia di Husserl e l'Ontologia di Martin  
 Heidegger: *G. Grasselli*. L'animale quale soggetto di diritto: *C.  
 Goretti*.

Logos. Anno XI, Fascicolo 3. La filosofia di E. Meyerson e la  
 logica dell'identità: *N. Abbagnano*. Lo spirito, la natura et l'edu-



cazione: *E. Catalano*. Nuove ricerche bibliografiche intorno a P. Galluppi: *E. Di Carlo*. La dottrina plotiniana delle idee individuali: *G. Capone-Braga*.

THE RICE INSTITUTE PAMPHLET. Vol. XV, No. 1. The Problem of Evil—Three public lectures delivered by Radoslav Andrea Tsanoff. I: The Problem of Evil in the Great Religions. II: Aristocracy Without Illusions: Alfred de Vigny. III: The Despair of Civilization.

SCIENTIA. Vol. XLIV. N. CC-12. L'evoluzione della teoria dei quanti: *E. Persico*. Kosmogonische Grundfragen: *F. Nölke*. The Rôle of Differentiation in Organic Evolution: *T. Brailsford-Robertson*. Le Statut de la Cour Permanente et les conventions d'arbitrage et de conciliation: *C. A. Reuterskiöld*.

Bailey, Cyril: The Greek Atomists and Epicurus. A Study. Oxford: At the Clarendon Press. 1928. ix + 619 pp. \$8.00.

Burnet, John: Platonism. (Sather Classical Lectures). Berkeley: University of California Press. 1928. 130 pp.

Carritt, E. F.: The Theory of Morals. An Introduction to Ethical Philosophy. Oxford University Press. London: Humphrey Milford. 1928. xiii + 144 pp. \$1.50.

Haering, Theodor L.: Hegel. Sein Wollen und sein Werk. Eine Chronologische Entwicklungsgeschichte der Gedanken und der Sprache Hegels. Band I. Leipzig und Berlin: B. G. Teubner. xxiv + 785 pp. 32 M.

Husserl, Edmund, editor: Jahrbuch für Philosophie und phänomenologische Forschung. In Collaboration with O. Becker, M. Geiger, M. Heidegger, A. Pfänder. Neunter Band. Halle a. d. S.: Max Niemeyer. 1928. x + 496 pp. 30 M.

Joël, Karl: Wandlungen der Weltanschauung. Eine Philosophiegeschichte als Geschichtsphilosophie. Lieferung 4, Band I. Bogen 31-46 und Titel zu Band I. Tübingen: J. C. B. Mohr (Paul Siebeck.) 1928. Pp. 481-735 + xv.

Lévy-Bruhl, Lucian: The "Soul" of the Primitive. Authorized Translation by Lilian A. Clare. New York: Macmillan Co. 1928. 351 pp. \$5.00.

Rusk, Robert R.: The Philosophical Bases of Education. Boston: Houghton Mifflin Co. 1928. 205 pp. \$1.75.

Sageret, Émile: Essais de Philosophie synthétique. Paris: Félix Alcan. 299 pp. 20 fres.

Schneider, Herbert W. Making The Fascist State. New York: Oxford University Press. 1928. xi + 392 pp. \$5.00.

Whittaker, Thomas: The Neo-Platonists. A Study in the History of Hellenism. With a Supplement on the Commentaries of Proclus. 2nd édition, reprinted. Cambridge: At the University Press. (American Agents, Macmillan Co.) xv + 318 pp.



## NOTES AND NEWS

We regret to announce the death of Dr. Albert Lefevre, Corcoran Professor of Philosophy at the University of Virginia, on December 18, at University Hospital, Charlottesville, Virginia.

Professor Lefevre was born in Baltimore, October 4, 1873. He received the A.B. and A.M. degrees at the University of Texas, and then studied at the Johns Hopkins University, Cornell University, and the University of Berlin. He received from Cornell the Ph.D. degree in 1898, where he was lecturer in Philosophy. He was instructor at that university 1900-2, assistant professor, 1902-3. From 1903 to 1905 he was professor of philosophy at Tulane University; in 1905 he went to the University of Virginia as professor of philosophy. He translated (with Professor J. E. Crighton) *Immanuel Kant—His Life and Doctrine* by Fredrick Paulien.

Professor George H. Mead, of the University of Chicago, has been chosen by the Carus Lecture Committee of the American Philosophical Association to give the next series of lectures on the Carus Foundation.

We print below the program of the Twenty-eighth Annual Meeting of the Eastern Division of the American Philosophical Association, which meets December 27, 28, and 29, 1928, at the University of Pennsylvania.

## THURSDAY, DECEMBER 27

5:00 p.m.

Meeting of the Executive Committee.

7:30 p.m.

Opening Session.

On a Definition of Consciousness.....*Edgar A. Singer, Jr.*  
 Social Meaning and the Concept of Society....*Clifford L. Barrett*  
 Toward a Metaphysic of Literary Criticism..*Philip E. Wheelwright*  
 The Creative Imagination.....*Morris Cohen*

## FRIDAY, DECEMBER 28.

9:30 a.m.

Symposium: Philosophy of Religion

Topic: "In What Sense and to What Extent Does Religious Experience Afford Knowledge?".....*James Bissett Pratt*  
*James H. Leuba, Edgar S. Brightman, Alfred North Whitehead*



1:00 p.m.

Luncheon tendered the Association by the University of Pennsylvania, Houston Hall. Welcome by *Provost Penniman*.

2:30 p.m.

Logic and the Theory of Knowledge

Alternative Systems of Logic.....*Paul Weiss*

Is Mathematics a Deductive Science?.....*Harold R. Smart*

The Next Step in the Epistemological Dialectic

*Douglas C. Macintosh*

A Re-examination of Critical Realism.....*Roy Wood Sellars*

7:00 p.m.

Annual Association Dinner

Rittenhouse Hotel.

Presidential Address, "The Ethical Problem".....*Felix Adler*

SATURDAY, DECEMBER 29.

9:30 a.m.

Annual Business Meeting.

10:30 a.m.

Discussion

Topic: "Are There Any Necessary Truths?"

*Edward G. Spaulding, Wilmon H. Sheldon*

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ERRATUM: In the issue of this JOURNAL for November 22, 1928, it was incorrectly announced that the dates of the Ninth International Congress of Psychology, to be held at Yale University, would be September 1-17, 1929. The announcement should have read September 1-7, 1929.



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